

# BASIX Compliance Report

52 Scott Street, Liverpool NSW

Project No. P00983

Revision 02

Issued 19 April 2024

Client Built Development Group Pty Ltd

**E-LAB Consulting**

Where science and engineering inspire design.

## Document QA and Revisions

ISSUE	DATE	COMMENTS	ENGINEER	REVIEWER
1	09/04/2024	For SSDA	MR/NA	GB
2	19/04/2024	SSDA – Updated per Comments	MR	GB
3				
4				

### Confidentiality:

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### Disclaimer:

The building's energy and water performance are computed using the online BASIX tool and an energy model developed for thermal comfort and provides only an estimation and potential performance of the building. This cannot be used alone to determine performance in actual practice as they are based on the idealised version of the building which does not and cannot fully consider all the complexities of the building's maintenance and operation.

### Authorised by:

Engineering Lab NSW Pty Ltd



Guljit Bates | Associate

Sustainability

# Table of Contents

<u>1</u>	<u>EXECUTIVE SUMMARY</u>	<u>3</u>
<u>2</u>	<u>INTRODUCTION</u>	<u>4</u>
2.1	PROJECT DESCRIPTION.....	4
2.2	SITE LOCATION .....	4
2.3	DESIGN DOCUMENTATION.....	5
<u>3</u>	<u>BASIX COMPLIANCE</u>	<u>6</u>
3.1	OVERVIEW .....	6
3.2	BASIX CERTIFICATION DETAILS .....	6
3.3	ENERGY MODELLING SOFTWARE.....	6
3.4	BASIX ENERGY .....	7
3.5	BASIX THERMAL PERFORMANCE .....	9
3.6	BASIX WATER .....	10
<u>APPENDIX A</u>	<u>BASIX CERTIFICATE</u>	<u>12</u>
<u>APPENDIX B</u>	<u>NATHERS CERTIFICATE</u>	<u>13</u>

# 1 EXECUTIVE SUMMARY

This report has been prepared to outline the BASIX compliance for the build-to-rent residential development located within Phase B of the Liverpool Civic Place development located at 52 Scott Street, Liverpool. Built are aiming to deliver a premium quality, sustainability-focussed outcome for the project, with a strong emphasis on holistic performance, user-experience, quality, health, and wellbeing.

The intent of this report is to outline the results of BASIX assessment; and details of how each section is independently meeting minimum legislated BASIX benchmarks using various sustainability opportunities the development is considering for BASIX certification. The minimum compliance requirements are per the below:

AREA	MINIMUM COMPLIANCE REQUIREMENT	PROJECT SCORE
Energy	61%	61%
Water	40%	41%
Thermal Comfort	Pass	Pass
Material	No Target	100

Percentages stated for Energy and Water are the percentage improvement upon the NSW average dwelling's consumption.

**This report has found that based on the design of 52 Scott Street, Liverpool and the inputs provided to BASIX, the proposal complies with the requirements of BASIX. The information and performance required to achieve this is contained within this report.**



## 2 INTRODUCTION

### 2.1 PROJECT DESCRIPTION

The 52 Scott Street, Liverpool NSW 2170 development consists of 28 levels of residential floors including 3 levels of carpark levels (Basement 1,2 & 3) and one lower ground level which contain communal and retail spaces.

The development has a total of 320 units, with a combination of studio, and 1-,2- and 3-bedroom units.

The development has the following communal spaces to offer the residents:

- Cinema
- Workspace
- Communal social space on level 9
- Communal social space on level 27

### 2.2 SITE LOCATION

Figure 1 below is an image of the site in context of its location.

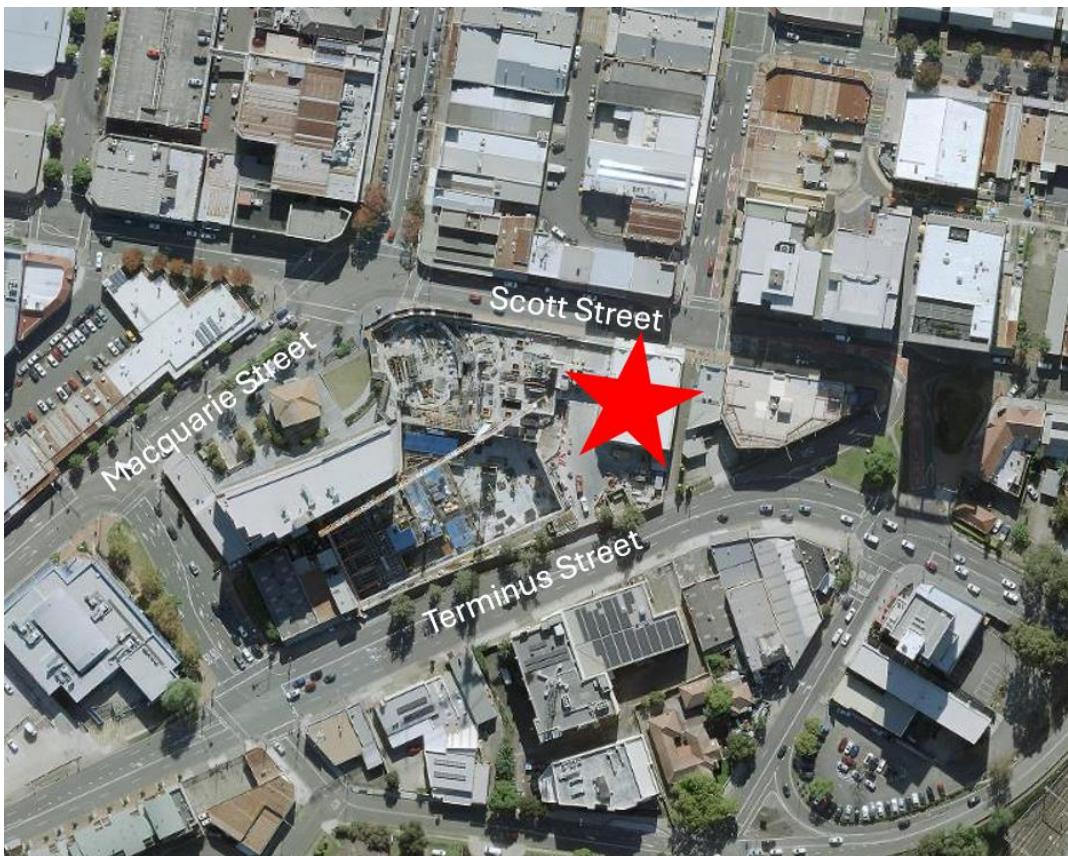


Figure 1. Site Location (Source: Six Maps)

## 2.3 DESIGN DOCUMENTATION

BASIX Assessment done was based on architectural package issued "For SSDA" by Scott Carver dated 16/4/2024. The following drawings were referred for the assessment:

SHEET No.	SHEET NAME
SD00 SERIES - INTRODUCTORY	
AR-DRW- 00_001	COVER PAGE
AR-DRW- 00_200	BASIX COMMITMENTS
SD01 SERIES - LOCATION PLANS	
AR-DRW- 01_001	LOCATION PLAN
SD02 SERIES - EXISTING SITE PLAN	
AR-DRW- 02_001	EXISTING SITE ANALYSIS PLAN
SD04 SERIES - PROPOSED SITE PLAN	
AR-DRW- 04_001	PROPOSED SITE PLAN
SD06 SERIES - AREA PLANS	
AR-DRW- 06_001	COMBINED GFA SCHEDULE - SHEET 1
SD07 SERIES - DEVELOPMENT SUMMARY	
AR-DRW- 07_001	DEVELOPMENT SUMMARY
SD10 SERIES - GENERAL ARRANGEMENT PLANS	
AR-DRW- 10_096	FLOOR PLAN - BASEMENT 3
AR-DRW- 10_097	FLOOR PLAN - BASEMENT 2
AR-DRW- 10_098	FLOOR PLAN - BASEMENT 1
AR-DRW- 10_099	FLOOR PLAN - LOWER GROUND
AR-DRW- 10_100	FLOOR PLAN - UPPER GROUND
AR-DRW- 10_101	FLOOR PLAN - LEVEL 1-5
AR-DRW- 10_106	FLOOR PLAN - LEVEL 6-8
AR-DRW- 10_109	FLOOR PLAN - LEVEL 9
AR-DRW- 10_110	FLOOR PLAN - LEVEL 10-26
AR-DRW- 10_127	FLOOR PLAN - LEVEL 27
AR-DRW- 10_128	FLOOR PLAN - ROOF
SD20 SERIES - ELEVATIONS	
AR-DRW- 20_001	NORTH ELEVATION
AR-DRW- 20_002	EAST ELEVATION
AR-DRW- 20_003	SOUTH ELEVATION
AR-DRW- 20_004	WEST ELEVATION
SD30 SERIES - SECTIONS	
AR-DRW- 30_001	OVERALL SECTIONS - SHEET 1
AR-DRW- 30_002	OVERALL SECTIONS - SHEET 2
SD61 SERIES - ADAPTABLE APARTMENTS	
AR-DRW- 61_100	ADAPTABLE APARTMENTS - SHEET 1
AR-DRW- 61_101	ADAPTABLE APARTMENTS - SHEET 2
AR-DRW- 61_200	ADAPTABLE UNIT SCHEDULE
AR-DRW- 61_201	LIVABLE UNIT SCHEDULE
SD80 SERIES - COMPLIANCE	
AR-DRW- 80_001	EXISTING SHADOW PLANS - WINTER SOLSTICE
AR-DRW- 80_005	PROPOSED SHADOW PLANS - WINTER SOLSTICE
AR-DRW- 80_011	EXISTING SHADOW PLANS - SUMMER SOLSTICE
AR-DRW- 80_015	PROPOSED SHADOW PLANS - SUMMER SOLSTICE
AR-DRW- 80_021	EXISTING SHADOW PLANS - SPRING EQUINOX
AR-DRW- 80_025	PROPOSED SHADOW PLANS - SPRING EQUINOX
AR-DRW- 80_031	EXISTING SHADOW PLANS - AUTUMN EQUINOX
AR-DRW- 80_035	PROPOSED SHADOW PLANS - AUTUMN EQUINOX
AR-DRW- 80_100	SUN EYE VIEW DIAGRAMS - EQUINOX
AR-DRW- 80_101	SUN EYE VIEW DIAGRAMS - WINTER
SD81 SERIES - ADG ASSESSMENT - SOLAR	
AR-DRW- 81_001	ADG SCHEDULES - WINTER SOLSTICE
SD82 SERIES - ADG ASSESSMENT - CROSS VENTILATION	
AR-DRW- 82_001	CROSS VENTILATION SCHEDULES
SD90 SERIES - FINISHES	
AR-DRW- 90_001	EXTERNAL FINISHES AND MATERIALS
SD92 SERIES - NOTIFICATION PLAN	
AR-DRW- 92_001	NOTIFICATION PLANS
TOTAL SHEET NUMBER:	42



### 3 BASIX COMPLIANCE

#### 3.1 OVERVIEW

BASIX Compliance is the minimum sustainability performance requirement in the state of NSW. It serves as the only pathway for compliance to demonstrate compliance with the National Construction Code, Part J.

E-LAB Consulting have completed modelling of all sections of the BASIX assessment; Water, Thermal Comfort and Energy for the development located at 52 Scott Street, Liverpool NSW 2170.

The BASIX outcome achieved based on the assumptions listed in the report and information provided to the date are as follows:

AREA	MINIMUM COMPLIANCE REQUIREMENT	PROJECT SCORE
Energy	61%	61%
Water	40%	41%
Thermal Comfort	Pass	Pass
Material	No Target	-100

#### 3.2 BASIX CERTIFICATION DETAILS

PROJECT SUMMARY	
Project Name	52 Scott Street Liverpool
Local Government Area	Liverpool
Plan Type	DP
Plan No.	1/DP1293937
No. of Residential Buildings	1
Total Number of units	320
Project Type	Residential Flat Building
BASIX Certificate No.	1743808M

#### 3.3 ENERGY MODELLING SOFTWARE

Simulation method in BASIX has been used to show the thermal comfort compliance. For energy simulations, FirstRate5 (Version 5.5.4) has been used which is approved under Thermal comfort protocol of BASIX since October 2023. This method does not guarantee or warrantee the performance in practical world as it only considers a simplified and idealistic building.



### 3.4 BASIX ENERGY

The following minimum standards will be required to comply with the BASIX Energy Targets for the project.

#### Apartment Buildings:

DESIGN ELEMENT	COMPLIANCE CRITERIA
Central hot water system	Electric Heat Pump – Air sourced Minimum EER ratings – $3.5 < COP \leq 4.0$ Internal & External Piping – R0.6 (~25 mm)
Cooking	Electric cooktop & electric oven
Mechanical heating and cooling	Ducted air-conditioning (1-Phase) for all units (Living and Bedroom). Minimum EER ratings – Cooling 3.0-3.5, Heating 3.5-4.0.
Apartment ventilation	Bathroom, laundry, and kitchen: individual fan, ducted to façade or roof – Interlocked to Light
Common area ventilation	<u>Ventilation (supply and exhaust)</u> : Carpark Area (with carbon monoxide monitor + VSD fan), Bike Storage – Carpark (continuous), PCU – LG, GA Room, Fire Pump – B1 (Thermostatically controlled) <u>Exhaust only + none i.e., continuous</u> : Fan Room – Carpark, Waste Rooms. Waste Rooms – LG, Bulk Waste – Basement. <u>Ventilation supply only + Thermostatically controlled</u> : Subsoil pump – B3, Rainwater Plant B1, PB Pump – B1, Substation - UG <u>No mechanical ventilation</u> : FCR – LG, SP Fan – UG + L27, Hot water plant L27, SPR Fan – L27, Fire stairs, Retail storage – LG, Storage – L9, Hallways <u>Air conditioning system</u> : DAS – B3, Security – B1, MSB -LG, Communal rooms (time clock or BMS controlled), Lobby/Lounge – LG, NBN/COMMS – B2 (continuous), Office – LG (time clock or BMS controlled), Cinema – LG (time clock or BMS controlled), Workspace – LG (time clock or BMS controlled)
Apartment artificial lighting	LED throughout with dedicated fittings
Common area artificial lighting	<u>LED connected to lift call button</u> : Lifts. <u>LED controlled by time clock and motion sensors</u> : Carpark Area, Bike Storage – Carpark, Firestairs, Cinema – LG, Workplace, LG, Lobby/Lounge – LG, Hallways <u>LEDs controlled by Motion Sensors</u> : Fan Room – Carpark, Waste Rooms, Waste Rooms – LG, Bulky Waste Basement, Communal Rooms, DAS – B3, Subsoil pump – B3, Rainwater Plant – B1, NBN/COMMS – B2, PCU – LG, Fire pump – B1, Security – B1, PB Pump – B1, GA Room, FCR – LG, MSB – LG, Substation – UG, SP Fan – UG + L27, Hot water Plant – L27, SPR Fan – L27, Retail Storage – LG, Storage – L9 <u>LEDs with motion sensor</u> : Office – LG



Appliances in Apartments (minimum Energy Star rating)	Dishwashers: Minimum 4 stars Clothes Dyer: Minimum 2.5 stars
Photovoltaic Array	45 kW
Vertical transport	All Lifts with gearless traction and VVVF motor Lift Load Capacity: > 1500 kg
	Will a Building Management System (BMS) be installed? – Yes Will active Power Factor Correction (PFC) be installed? – No Will a common area clothes drying line be installed? - No

**Error! Reference source not found.** below shows the energy score breakdown by end uses.

Contributions sum to 951256.3 kg (CO<sub>2</sub>)/year.

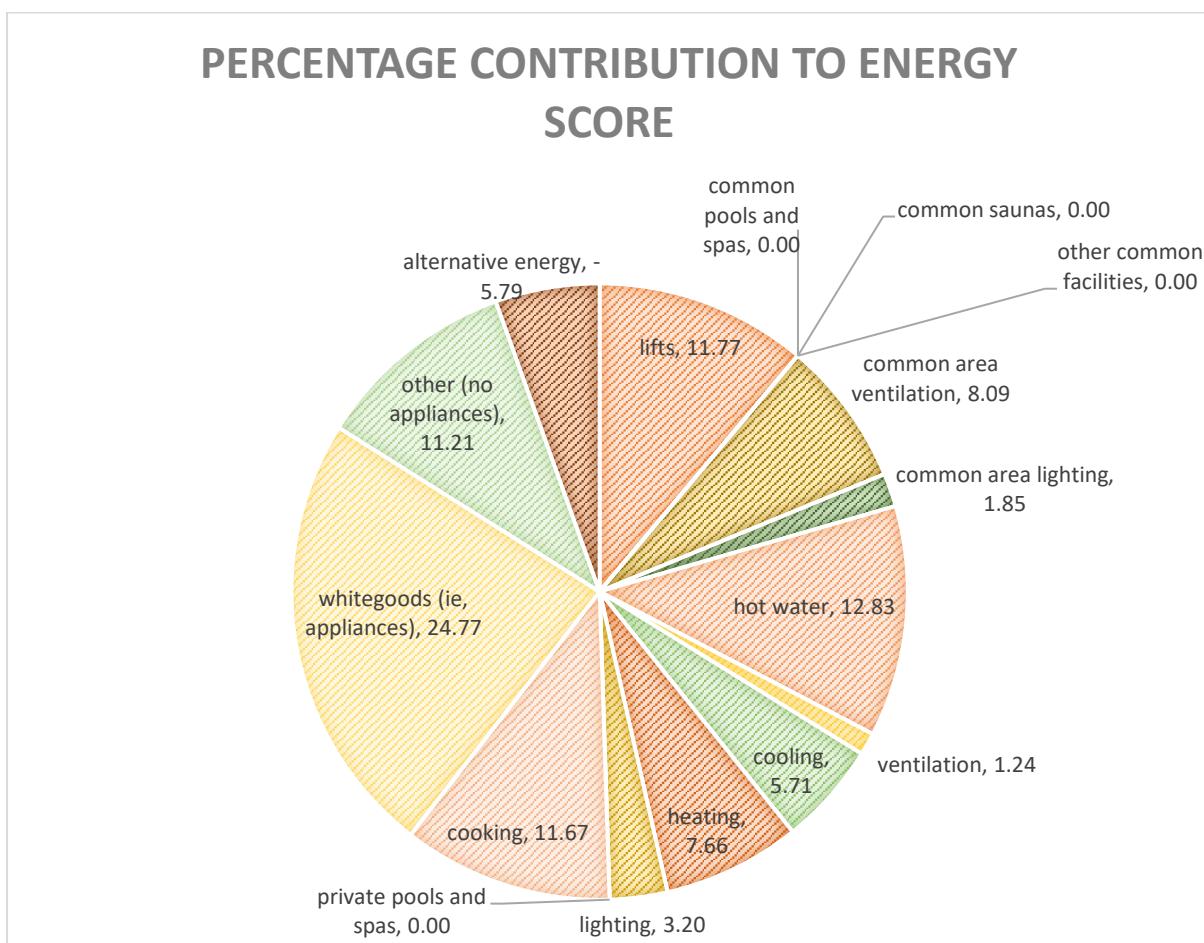


Figure 2: Energy Use Breakdown



### 3.5 BASIX THERMAL PERFORMANCE

The following minimum standards are required to comply with the BASIX Thermal Comfort requirements for the project.

DESIGN ELEMENT	COMPLIANCE CRITERIA
Glazed Doors / Windows	<p>Typically, the following Windows are used throughout.</p> <p>Units 1807, 1811, 1907, 1911, 2007, 2011, 2107, 2111, 2207, 2211, 2306, 2307, 2309, 2406, 2407, 2409, 2506, 2507, 2509, 2607 &amp; 2609 require the following glazing specification:</p> <p style="padding-left: 40px;"><u>Awning, Fixed and sliding windows</u></p> <p style="padding-left: 40px;">U-Value = 4.1; SHGC = 0.47 (+/- 5%)</p> <p>Units 02311, 2411, 2511 &amp; 2606 require the following glazing specification:</p> <p style="padding-left: 40px;"><u>Fixed and sliding windows</u></p> <p style="padding-left: 40px;">U-Value = 3.1; SHGC = 0.49 (+/- 5%)</p> <p style="padding-left: 40px;"><u>Awning window</u></p> <p style="padding-left: 40px;">U-Value = 4.1; SHGC = 0.47 (+/- 5%)</p> <p>Units 02311, 2411, 2511 &amp; 2606 require the following glazing specification:</p> <p style="padding-left: 40px;"><u>Fixed and sliding windows</u></p> <p style="padding-left: 40px;">U-Value = 2.30; SHGC = 0.26 (+/- 5%)</p> <p style="padding-left: 40px;"><u>Awning window</u></p> <p style="padding-left: 40px;">U-Value = 4.1; SHGC = 0.47 (+/- 5%)</p> <p>Units 0011 &amp; 0111 require the following glazing specification:</p> <p style="padding-left: 40px;"><u>Awning, Fixed and sliding windows</u></p> <p style="padding-left: 40px;">U-Value = 4.9; SHGC = 0.33 (+/- 5%)</p> <p>All remaining apartments require the following glazing specification:</p> <p style="padding-left: 40px;"><u>Fixed and sliding windows</u></p> <p style="padding-left: 40px;">U-Value = 4.6; SHGC = 0.47 (+/- 5%)</p> <p style="padding-left: 40px;"><u>Awning window</u></p> <p style="padding-left: 40px;">U-Value = 5.4; SHGC = 0.49 (+/- 5%)</p> <p>Operability – max available while meeting window safety device requirements defined in the BCA.</p> <p>Note – all glazing systems are whole of system, including glazing and frame systems.</p>
Skylights	Not Applicable



External Solid Walls	Added R2.5 bulk insulation for all apartment external walls. Minimum R0.2 thermal break to all metal stud frame for thermal bridging control.  Medium or light colour
Walls to Internal Corridors or Non-Conditioned Zones:	Added R1.8 bulk insulation for all internal walls between apartment unit and non-conditioned enclosed internal zones. Minimum R0.2 thermal break to all metal stud frame for thermal bridging control.
Exposed Roofs/Balconies (Over conditioned spaces)	Added R4.0 soffit slab insulation to all apartment concrete slab roofs and ceiling below balcony.  Added R2.5 soffit slab insulation to all apartment ceilings below unconditioned spaces.  Medium or light colour
Suspended Floor Slabs  (Enclosed floor levels between conditioned and internal non-conditioned spaces and open to outside)	Added R2.5 soffit slab insulation to underside of suspended concrete slabs.
Floors Covering	Carpet in Bedrooms  Timber in Living/Dining rooms  Tile in Kitchen and Tile in Bathrooms.

### 3.6 BASIX WATER

The following minimum standards are required to comply with the BASIX Water Targets for the project.

DESIGN ELEMENT	COMPLIANCE CRITERIA
Central systems & common areas	Toilets: Minimum 4 Star WELS Rated  All Taps: Minimum 5 Star WELS Rated
Dwelling Fixtures	Showers: Minimum 3 Star (>6 but <= 7.5 L/min) WELS Rated  Toilets: Minimum 4 Star WELS Rated  All Taps: Minimum 6 Star WELS Rated
Dwelling Fittings/Appliances	Washing Machine: not specified  Dishwasher: Minimum 2.5 star
Fire Sprinkler Water Test	Fire sprinkler test water is contained in a closed system
Alternative Water	Minimum 10 KL Rainwater tank to harvest roof area serving landscape irrigation



Figure 3 below shows the water score breakdown by end uses.

Contributions sum to 101971.6 L/day.

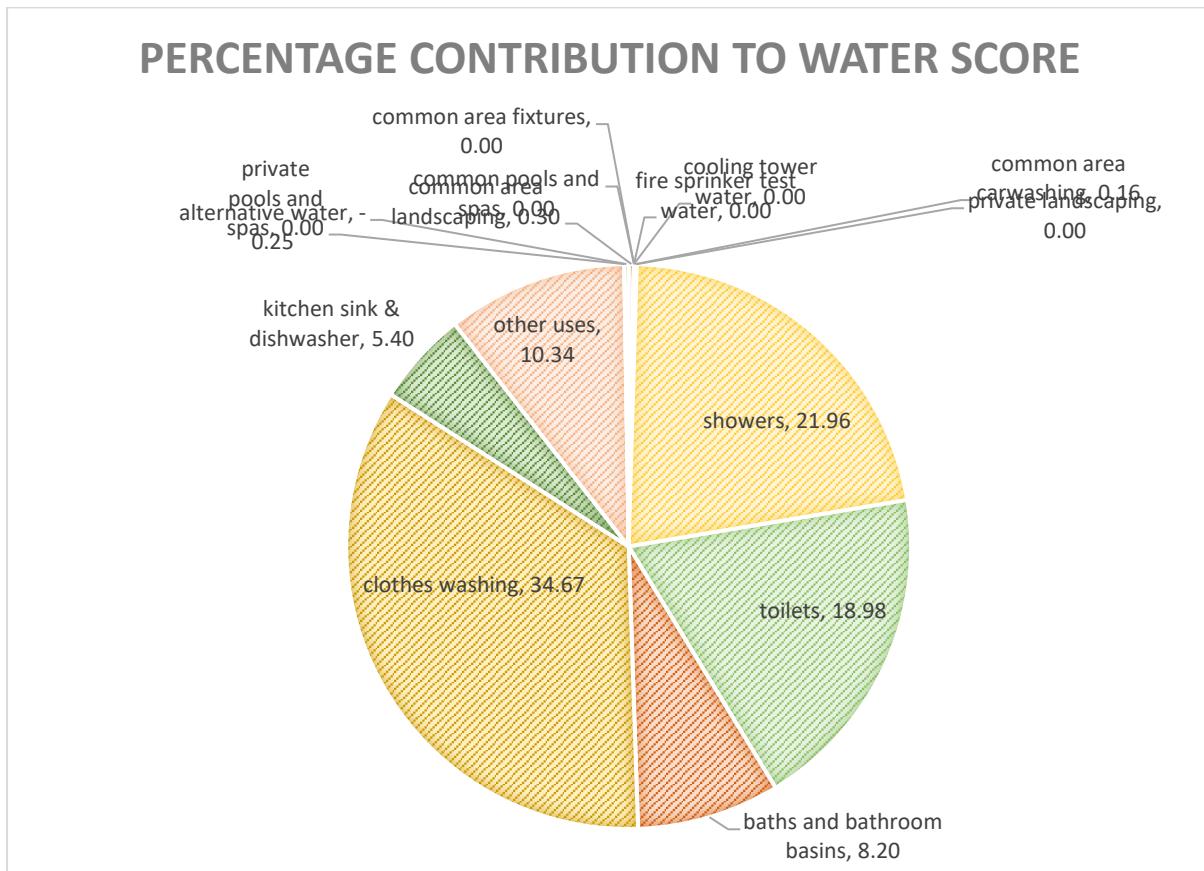


Figure 3: Water Use Breakdown

## **APPENDIX A BASIX CERTIFICATE**



# BASIX® Certificate

Building Sustainability Index [www.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

## Multi Dwelling

Certificate number: 1743808M

This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated 10/09/2020 published by the Department. This document is available at [www.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

Secretary

Date of issue: Tuesday, 16 April 2024

To be valid, this certificate must be submitted with a development application or lodged with a complying development certificate application within 3 months of the date of issue.



### Project summary

Project name	52 Scott Street Liverpool
Street address	52 SCOTT STREET LIVERPOOL 2170
Local Government Area	LIVERPOOL
Plan type and plan number	Deposited Plan 1219599
No. of residential flat buildings	1
Residential flat buildings: no. of dwellings	320
Multi-dwelling housing: no. of dwellings	0
No. of single dwelling houses	0

### Project score

Water	✓ 41	Target 40
Thermal Performance	✓ Pass	Target Pass
Energy	✓ 61	Target 61
Materials	✓ -100	Target n/a

### Certificate Prepared by

Name / Company Name: E-LAB Consulting

ABN (if applicable): 84647520634

# Description of project

Project address		Common area landscape	
Project name	52 Scott Street Liverpool	Common area lawn (m <sup>2</sup> )	539.26
Street address	52 SCOTT STREET LIVERPOOL 2170	Common area garden (m <sup>2</sup> )	286.63
Local Government Area	LIVERPOOL	Area of indigenous or low water use species (m <sup>2</sup> )	0
Project type		Assessor details and thermal loads	
No. of residential flat buildings	1	Assessor number	DMN/16/1751
Residential flat buildings: no. of dwellings	320	Certificate number	176VX2JMFZ
Multi-dwelling housing: no. of dwellings	0	Climate zone	28
No. of single dwelling houses	0	Project score	
Site details		Water	41 Target 40
Site area (m <sup>2</sup> )	2500	Thermal Performance	Pass Target Pass
Roof area (m <sup>2</sup> )	781	Energy	61 Target 61
Non-residential floor area (m <sup>2</sup> )	0	Materials	-100 Target n/a
Residential car spaces	115		
Non-residential car spaces	0		

## Description of project

The tables below describe the dwellings and common areas within the project

### Residential flat buildings - Building1, 320 dwellings, 27 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
0001	2	79	0	0	0
0005	1	55	0	0	0
0009	1	52.7	0	0	0
0102	1	38	0	0	0
0106	1	58	0	0	0
0110	1	53	0	0	0
0114	3	117	0	0	0
0204	1	37	0	0	0
0208	1	55	0	0	0
0212	2	81	0	0	0
0302	1	38	0	0	0
0306	1	58	0	0	0
0310	1	53	0	0	0
0314	3	117	0	0	0
0404	1	37	0	0	0
0408	1	55	0	0	0
0412	2	81	0	0	0
0502	1	38	0	0	0
0506	1	58	0	0	0
0510	1	53	0	0	0
0514	3	117	0	0	0
0002	1	37	0	0	0
0006	1	57.5	0	0	0
0010	1	53	0	0	0
0103	1	50	0	0	0
0107	2	80.9	0	0	0
0111	1	37	0	0	0
0201	2	78	0	0	0
0205	1	54	0	0	0
0209	1	53	0	0	0
0213	2	80	0	0	0
0303	1	50	0	0	0
0307	2	80.9	0	0	0
0311	1	37	0	0	0
0401	2	78	0	0	0
0405	1	54	0	0	0
0409	1	53	0	0	0
0413	2	80	0	0	0
0503	1	50	0	0	0
0507	2	80.9	0	0	0
0511	1	37	0	0	0
0601	2	79	0	0	0
0003	1	51	0	0	0
0007	2	91	0	0	0
0011	1	38.6	0	0	0
0104	1	37	0	0	0
0108	1	55	0	0	0
0112	2	81	0	0	0
0202	1	38	0	0	0
0206	1	58	0	0	0
0210	1	53	0	0	0
0214	3	117	0	0	0
0304	1	37	0	0	0
0308	1	55	0	0	0
0312	2	81	0	0	0
0402	1	38	0	0	0
0406	1	58	0	0	0
0410	1	53	0	0	0
0414	3	117	0	0	0
0504	1	37	0	0	0
0508	1	55	0	0	0
0512	2	81	0	0	0
0602	1	37	0	0	0
0004	1	38	0	0	0
0008	1	52.7	0	0	0
0101	2	78	0	0	0
0105	1	54	0	0	0
0109	1	53	0	0	0
0113	2	80	0	0	0
0203	1	50	0	0	0
0207	2	80.9	0	0	0
0211	1	37	0	0	0
0301	2	78	0	0	0
0305	1	54	0	0	0
0309	1	53	0	0	0
0313	2	80	0	0	0
0403	1	50	0	0	0
0407	2	80.9	0	0	0
0411	1	37	0	0	0
0501	2	78	0	0	0
0505	1	54	0	0	0
0509	1	53	0	0	0
0513	2	80	0	0	0
0603	1	52	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
0604	1	37	0	0	0
0608	1	55	0	0	0
0612	2	82	0	0	0
0701	2	79	0	0	0
0705	1	64	0	0	0
0709	1	53	0	0	0
0713	2	80	0	0	0
0802	1	37	0	0	0
0806	1	58	0	0	0
0810	1	53	0	0	0
0814	3	105	0	0	0
0903	1	51	0	0	0
0907	1	46	0	0	0
1004	1	51	0	0	0
1008	1	54	0	0	0
1101	2	79	0	0	0
1105	1	35	0	0	0
1109	2	81	0	0	0
1202	1	38	0	0	0
1206	2	85	0	0	0
1210	1	53	0	0	0
1303	1	51	0	0	0
1307	1	52	0	0	0
1311	2	90	0	0	0
1404	1	51	0	0	0
1408	1	54	0	0	0
0605	1	64	0	0	0
0609	1	53	0	0	0
0613	2	80	0	0	0
0702	1	37	0	0	0
0706	1	58	0	0	0
0710	1	53	0	0	0
0714	3	105	0	0	0
0803	1	52	0	0	0
0807	2	80.9	0	0	0
0811	1	37	0	0	0
0815	1	46	0	0	0
0904	2	80	0	0	0
1001	2	79	0	0	0
1005	1	35	0	0	0
1009	2	81	0	0	0
1102	1	38	0	0	0
1106	2	85	0	0	0
1110	1	53	0	0	0
1203	1	51	0	0	0
1207	1	52	0	0	0
1211	2	90	0	0	0
1304	1	51	0	0	0
1308	1	54	0	0	0
1401	2	79	0	0	0
1405	1	35	0	0	0
1409	2	81	0	0	0
0606	1	58	0	0	0
0610	1	53	0	0	0
0614	3	105	0	0	0
0703	1	52	0	0	0
0707	2	80.9	0	0	0
0711	1	37	0	0	0
0715	1	46	0	0	0
0804	1	37	0	0	0
0808	1	55	0	0	0
0812	2	82	0	0	0
0901	2	77	0	0	0
0905	2	81	0	0	0
1002	1	38	0	0	0
1006	2	85	0	0	0
1010	1	53	0	0	0
1103	1	51	0	0	0
1107	1	52	0	0	0
1111	2	90	0	0	0
1204	1	51	0	0	0
1208	1	54	0	0	0
1301	2	79	0	0	0
1305	1	35	0	0	0
1309	2	81	0	0	0
1402	1	38	0	0	0
1406	2	85	0	0	0
1410	1	53	0	0	0
0607	2	80.9	0	0	0
0611	1	37	0	0	0
0615	1	46	0	0	0
0704	1	37	0	0	0
0708	1	55	0	0	0
0712	2	82	0	0	0
0801	2	79	0	0	0
0805	1	64	0	0	0
0809	1	55	0	0	0
0813	2	80	0	0	0
0902	1	37	0	0	0
0906	3	106	0	0	0
1003	1	51	0	0	0
1007	1	52	0	0	0
1011	2	90	0	0	0
1104	1	51	0	0	0
1108	1	54	0	0	0
1201	3	79	0	0	0
1205	1	35	0	0	0
1209	2	81	0	0	0
1302	1	38	0	0	0
1306	2	85	0	0	0
1310	1	53	0	0	0
1403	1	51	0	0	0
1407	1	52	0	0	0
1411	2	90	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
1501	2	79	0	0	0
1505	1	35	0	0	0
1509	2	81	0	0	0
1602	1	38	0	0	0
1606	2	85	0	0	0
1610	1	53	0	0	0
1703	1	51	0	0	0
1707	1	52	0	0	0
1711	2	90	0	0	0
1804	1	51	0	0	0
1808	1	54	0	0	0
1901	2	79	0	0	0
1905	1	35	0	0	0
1909	2	81	0	0	0
2002	1	38	0	0	0
2006	2	85	0	0	0
2010	1	53	0	0	0
2103	1	51	0	0	0
2107	1	52	0	0	0
2111	2	90	0	0	0
2204	1	51	0	0	0
2208	1	54	0	0	0
2301	2	79	0	0	0
2305	1	35	0	0	0
2309	2	81	0	0	0
2402	1	38	0	0	0
1502	1	38	0	0	0
1506	2	85	0	0	0
1510	1	53	0	0	0
1603	1	51	0	0	0
1607	1	52	0	0	0
1611	2	90	0	0	0
1704	1	51	0	0	0
1708	1	54	0	0	0
1801	2	79	0	0	0
1805	1	35	0	0	0
1809	2	81	0	0	0
1902	1	38	0	0	0
1906	2	85	0	0	0
1910	1	53	0	0	0
2003	1	51	0	0	0
2007	1	52	0	0	0
2011	2	90	0	0	0
2104	1	51	0	0	0
2108	1	54	0	0	0
2201	2	79	0	0	0
2205	1	35	0	0	0
2209	2	81	0	0	0
2302	1	38	0	0	0
2306	2	85	0	0	0
2310	1	53	0	0	0
2403	1	51	0	0	0
1503	1	51	0	0	0
1507	1	52	0	0	0
1511	2	90	0	0	0
1604	1	51	0	0	0
1608	1	54	0	0	0
1701	2	79	0	0	0
1705	1	35	0	0	0
1709	2	81	0	0	0
1802	1	38	0	0	0
1806	2	85	0	0	0
1810	1	53	0	0	0
1903	1	51	0	0	0
1907	1	52	0	0	0
1911	2	90	0	0	0
2004	1	51	0	0	0
2008	1	54	0	0	0
2101	2	79	0	0	0
2105	1	35	0	0	0
2109	2	81	0	0	0
2202	1	38	0	0	0
2206	2	85	0	0	0
2210	1	53	0	0	0
2303	1	51	0	0	0
2307	1	52	0	0	0
2311	2	90	0	0	0
2404	1	51	0	0	0
1504	1	51	0	0	0
1508	1	54	0	0	0
1601	2	79	0	0	0
1605	1	35	0	0	0
1609	2	81	0	0	0
1702	1	38	0	0	0
1706	2	85	0	0	0
1710	1	53	0	0	0
1803	1	51	0	0	0
1807	1	52	0	0	0
1811	2	90	0	0	0
1904	1	51	0	0	0
1908	1	54	0	0	0
2001	2	79	0	0	0
2005	1	35	0	0	0
2009	2	81	0	0	0
2102	1	38	0	0	0
2106	2	85	0	0	0
2110	1	53	0	0	0
2203	1	51	0	0	0
2207	1	52	0	0	0
2211	2	90	0	0	0
2304	1	51	0	0	0
2308	1	54	0	0	0
2401	2	79	0	0	0
2405	1	35	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
2406	2	85	0	0	0
2410	1	53	0	0	0
2503	1	51	0	0	0
2507	1	52	0	0	0
2511	2	90	0	0	0
2604	1	51	0	0	0
2608	1	54	0	0	0
2407	1	52	0	0	0
2411	2	90	0	0	0
2504	1	51	0	0	0
2508	1	54	0	0	0
2601	2	79	0	0	0
2605	1	35	0	0	0
2609	2	81	0	0	0
2408	1	54	0	0	0
2501	2	79	0	0	0
2505	1	35	0	0	0
2509	2	81	0	0	0
2602	1	38	0	0	0
2606	1	85	0	0	0
2610	1	53	0	0	0
2409	2	81	0	0	0
2502	1	38	0	0	0
2506	2	85	0	0	0
2510	1	53	0	0	0
2603	1	51	0	0	0
2607	1	52	0	0	0
2611	2	90	0	0	0

## Description of project

The tables below describe the dwellings and common areas within the project

### Common areas of the development (non-building specific)

Common area	Floor area (m <sup>2</sup> )
Carpark Area	5046.65
Bulky Waste - Basement	68.03
Rainwater Plant - B1	25.3
Security -B1	15.7

Common area	Floor area (m <sup>2</sup> )
Bike Storage - Carpark	142.74
DAS - B3	31
NBN/COMMS - B2	31
PB Pump - B1	22.53

Common area	Floor area (m <sup>2</sup> )
Fan Room - Carpark	156.73
Subsoil pump -B3	22.54
Fire pump - B1	42.61
GA Room	22.54

### Common areas of unit building - Building1

Common area	Floor area (m <sup>2</sup> )
Lift bank (No. 1)	-
Waste Rooms - LG	156.21
FCR - LG	13.01
SP Fan - UG + L27	117.05
Retail Storage - LG	18.53
Workspace - LG	84.16
Hallways	2849.82

Common area	Floor area (m <sup>2</sup> )
Lift bank (No. 2)	-
Communal Rooms	579.33
MSB - LG	52.47
SPR Fan - L27	28
Office - LG	8.05
Storage - L9	4.88
Hot water Plant - L27	79

Common area	Floor area (m <sup>2</sup> )
Waste Rooms	123.46
PCU - LG	51.36
Substation -UG	50.56
Firestairs	687.05
Cinema - LG	31.81
Lobby/Lounge - LG	132.8

# Schedule of BASIX commitments

## 1. Commitments for Residential flat buildings - Building1

- (a) Buildings
  - (i) Materials
- (b) Dwellings
  - (i) Water
  - (ii) Energy
  - (iii) Thermal Performance
- (c) Common areas and central systems/facilities
  - (i) Water
  - (ii) Energy

## 2. Commitments for multi-dwelling housing

- (a) Dwellings
  - (i) Water
  - (ii) Energy
  - (iii) Thermal Performance

## 3. Commitments for single dwelling houses

- (a) Dwellings
  - (i) Water
  - (ii) Energy
  - (iii) Thermal Performance

## 4. Commitments for common areas and central systems/facilities for the development (non-building specific)

- (a) Buildings 'Other'
  - (i) Materials
- (b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

## Schedule of BASIX commitments

The commitments set out below regulate how the proposed development is to be carriedout. It is a condition of any development consent granted, or complying development certificate issued, for the proposed development, that BASIX commitments be complied with.

### 1. Commitments for Residential flat buildings - Building1

#### (a) Buildings

(i) Materials	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Floor types", "External wall types", "Internal wall types", "Ceiling and roof types", "Frames" and "Glazing" tables below.			✓
(b) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all specifications included in the tables below.		✓	
(c) The applicant must construct the floors, walls, roof, ceiling and roof, windows, glazed doors and skylights of the development in accordance with the specifications listed in the tables below. In the case of glazing, a 5% variance from the area values listed in the "Frames" and "Glazing" tables is permitted.	✓	✓	✓
(d) The applicant must show through receipts that the materials purchased for construction are consistent with the specifications listed in the below tables.			✓

#### Floor types

Floor type	Area (m2)	Insulation	Low emissions option
floors above habitable rooms, frame: suspended concrete slab	5168	fibreglass batts or roll	-
floors above habitable rooms, frame: suspended concrete slab	35573	fibreglass batts or roll	-

#### External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	concrete block/ plasterboard,frame:light steel frame	79172	-	fibreglass batts or roll
External wall type 2	cavity brick,frame:timber - H2 treated softwood	400	-	-

Internal wall types			
Internal wall type	Construction type	Area (m <sup>2</sup> )	Insulation
Internal wall type 1	plasterboard, frame:light steel frame	23000	fibreglass batts or roll
Internal wall type 2	cavity brick wall, frame:timber - H2 treated softwood	200	-

Reinforcement concrete frames/columns		
Building has reinforced concrete frame/columns?	Volume (m <sup>3</sup> )	Low emissions option
-	-	-

Ceiling and roof types			
Ceiling and roof type	Area (m <sup>2</sup> )	Roof Insulation	Ceiling Insulation
framed - concrete tiles, frame: light steel frame	500	-	fibreglass batts or roll

Glazing types			Frame types				
Single glazing (m <sup>2</sup> )	Double glazing (m <sup>2</sup> )	Triple glazing (m <sup>2</sup> )	Aluminium frames (m <sup>2</sup> )	Timber frames (m <sup>2</sup> )	uPVC frames (m <sup>2</sup> )	Steel frames (m <sup>2</sup> )	Composite frames (m <sup>2</sup> )
0	23500	0	23500	0	0	0	0

**(b) Dwellings**

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✓	✓	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✓	✓
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✓	✓
(e) The applicant must install:			
(aa) a hot water diversion system to all showers, kitchen sinks and all basins in the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below; and		✓	✓
(bb) a separate diversion tank (or tanks) connected to the hot water diversion systems of at least 100 litres. The applicant must connect the hot water diversion tank to all toilets in the dwelling.		✓	✓
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✓	✓	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✓	
(g) The pool or spa must be located as specified in the table.	✓	✓	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✓	✓	✓

Dwelling no.	Fixtures					Appliances		Individual pool				Individual spa		
	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	4 star (> 6 but <= 7.5 L/min)	4 star	6 star	6 star	-	not specified	2.5 star	-	-	-	-	-	-	-

Alternative water source									
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection(s)	Laundry connection	Pool top-up	Spa top-up	
All dwellings	No alternative water supply	-	-	-	-	-	-	-	
All dwellings	No alternative water supply	-	-	-	-	-	-	-	
<b>(ii) Energy</b>							<b>Show on DA plans</b>	<b>Show on CC/CDC plans &amp; specs</b>	<b>Certifier check</b>
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.									
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.							✓	✓	✓
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.							✓	✓	✓
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.							✓	✓	✓
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.							✓	✓	✓
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.							✓	✓	✓
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must:									
(aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and								✓	
(bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.								✓	
(h) The applicant must install in the dwelling:									

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below;		✓	
(bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and		✓	✓
(cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✓	
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✓	

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	Central hot water system (No. 1)	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual on / timer off	individual fan, ducted to façade or roof	manual switch on/off

	Cooling		Heating		Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
All dwellings	1-phase airconditioning - ducted / EER 3.0 - 3.5	1-phase airconditioning - ducted / EER 3.0 - 3.5	1-phase airconditioning - ducted / EER 3.5 - 4.0	1-phase airconditioning - ducted / EER 3.5 - 4.0	0	-

	Individual pool			Individual spa		Appliances other efficiency measures					
Dwelling no.	Pool heating system	Pool Pump	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Dishwasher	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line	
All dwellings	-	-	-	-	-	electric cooktop & electric oven	4 star	2.5 star	no	no	

(iii) Thermal Performance	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.	✓		
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.		✓	
(f) The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✓	✓
(g) Where there is an in-slab heating or cooling system, the applicant must: <ul style="list-style-type: none"> <li>(aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or</li> <li>(bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab.</li> </ul>	✓	✓	✓
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✓	✓	✓
(i) The applicant must show on The plans accompanying The development application for The proposed development, The locations of ceiling fans set out in The Assessor Certificate.	✓		
(j) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), the locations of ceiling fans set out in the Assessor Certificate.		✓	

Thermal loads			
Dwelling no.	Area adjusted heating load (in MJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in MJ/m <sup>2</sup> /yr)	Area adjusted total load (in MJ/m <sup>2</sup> /yr)
0001	23.2	28.3	51.500
0002	7.20	10.2	17.400
0003	24.20	15	39.200
0004	9.40	48.2	57.600

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in MJ/m <sup>2</sup> /yr)	Area adjusted total load (in MJ/m <sup>2</sup> /yr)
0005	19.90	21	40.900
0006	32.5	22.4	54.900
0007	19.7	28.3	48.000
0008	22.7	41.1	63.800
0009	27.50	19.1	46.600
0010	26.90	16.4	43.300
0011	20.8	46.5	67.300
0101	21.8	28.32	50.120
0102	4.2	10.4	14.600
0103	20.6	15	35.600
0104	7.2	48.5	55.700
0105	22.6	24.3	46.900
0106	27.3	21.8	49.100
0107	17.1	29.3	46.400
0108	16.2	40.4	56.600
0109	28.5	18.5	47.000
0110	28	15.9	43.900
0111	14.1	49.4	63.500
0112	52.5	11.9	64.400
0113	44.7	12.7	57.400
0114	38.5	10.8	49.300
0201	21.8	21.5	43.300
0202	5.6	9.1	14.700
0203	21.3	15.7	37.000
0204	16.3	28.1	44.400
0205	25.7	22	47.700
0206	31.1	18.4	49.500
0207	19.8	22.1	41.900
0208	20.7	34.5	55.200
0209	32.2	14.3	46.500
0210	31.7	13.1	44.800

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in MJ/m <sup>2</sup> /yr)	Area adjusted total load (in MJ/m <sup>2</sup> /yr)
0211	15.7	48.9	64.600
0212	46.7	10	56.700
0213	44.4	10.3	54.700
0214	40.1	9.6	49.700
0301	26.6	20.5	47.100
0302	6.4	8.8	15.200
0303	25.2	11.9	37.100
0304	10.3	35.1	45.400
0305	26.3	28.32	54.620
0306	31.8	18.2	50.000
0307	20.4	21.6	42.000
0308	21.2	33.9	55.100
0309	32.9	14.3	47.200
0311	16.2	48.1	64.300
0312	47.4	9.7	57.100
0313	45	10.2	55.200
0314	40.5	9.5	50.000
0401	26.9	20	46.900
0402	6.4	8.7	15.100
0403	25.8	11.5	37.300
0404	10.8	34.2	45.000
0405	27	21.3	48.300
0406	32.3	18.2	50.500
0407	20.8	21.3	42.100
0408	21.9	33.9	55.800
0409	33.6	14.1	47.700
0410	32.9	12.7	45.600
0411	16.6	46.4	63.000
0412	48	9.6	57.600
0413	45.6	10.4	56.000
0414	41	9.5	50.500

Dwelling no.	Thermal loads		
	Area adjusted heating load (in MJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in MJ/m <sup>2</sup> /yr)	Area adjusted total load (in MJ/m <sup>2</sup> /yr)
0501	27.3	19.8	47.100
0502	6.7	8.8	15.500
0503	26.3	11.5	37.800
0504	11.1	33.4	44.500
0505	27.4	20.9	48.300
0506	32.8	17.6	50.400
0507	21	20.9	41.900
0508	22.4	33.1	55.500
0509	34.1	14.1	48.200
0510	33.4	12.6	46.000
0511	17	46.6	63.600
0512	48.5	9.3	57.800
0513	46.1	10.2	56.300
0514	41.4	9.5	50.900
0601	27.4	19.7	47.100
0602	6.9	8.5	15.400
0603	26.6	11.4	38.000
0604	11.3	32.5	43.800
0605	27.7	20.7	48.400
0606	33.1	17.2	50.300
0607	20.8	20	40.800
0608	22.7	33.10	55.800
0609	34.4	13.7	48.100
0610	33.7	12.7	46.400
0611	17.2	46.5	63.700
0612	48.8	9.5	58.300
0613	46.4	10.1	56.500
0614	39.9	10.4	50.300
0615	35.8	38.3	74.100
0701	27.8	19.4	47.200
0702	7.2	8.4	15.600

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in MJ/m <sup>2</sup> /yr)	Area adjusted total load (in MJ/m <sup>2</sup> /yr)
0703	27.1	11.3	38.400
0704	11.6	31.7	43.300
0705	28.2	20.2	48.400
0706	33.6	17.1	50.700
0707	21.8	20.9	42.700
0708	23.2	32.5	55.700
0709	34.8	13.5	48.300
0710	34.2	28.31	62.510
0711	17.6	46.1	63.700
0712	49.3	9.5	58.800
0713	46.8	9.8	56.600
0714	40.3	10.4	50.700
0715	25.2	37.2	62.400
0801	28	19.6	47.600
0802	7.4	8.2	15.600
0803	27.5	11.1	38.600
0804	12	31.7	43.700
0805	36.6	28	64.600
0806	35.4	17.4	52.800
0807	38.9	30.7	69.600
0808	32.2	41.4	73.600
0809	35	20.7	55.700
0810	36.2	14.7	50.900
0811	19.2	46	65.200
0812	51.9	9.7	61.600
0813	47.1	9.7	56.800
0814	40.5	10.3	50.800
0815	27	37.4	64.400
0901	37.7	19.5	57.200
0902	8.2	7.3	15.500
0903	27.9	12.5	40.400

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in MJ/m <sup>2</sup> /yr)	Area adjusted total load (in MJ/m <sup>2</sup> /yr)
0904	60.4	11.5	71.900
0905	54.8	11.6	66.400
0906	43.2	11.1	54.300
0907	33.5	39.4	72.900
1001	23.4	18.8	42.200
1002	8.4	7.1	15.500
1003	26.2	12	38.200
1004	20.8	23.3	44.100
1005	7	11.2	18.200
1006	31.9	30.2	62.100
1007	43.7	26.6	70.300
1008	48.3	7.2	55.500
1009	52.3	10.4	62.700
1010	36.2	11	47.200
1011	50.2	23	73.200
1101	23.7	21.4	45.100
1102	8.4	7.2	15.600
1103	26.2	11.9	38.100
1104	20.9	23.3	44.200
1105	7.1	10.8	17.900
1106	32	30	62.000
1107	43.7	26.2	69.900
1108	48.4	7.2	55.600
1109	52.4	10.3	62.700
1110	36.4	11	47.400
1111	49.5	24.5	74.000
1201	22.8	24.2	47.000
1202	8.7	7.3	16.000
1203	26.5	11.7	38.200
1204	21.2	22.7	43.900
1205	7.2	10.7	17.900

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in MJ/m <sup>2</sup> /yr)	Area adjusted total load (in MJ/m <sup>2</sup> /yr)
1206	28.3	30.4	58.700
1207	28.6	26.7	55.300
1208	48.7	7.3	56.000
1209	52.7	10.4	63.100
1210	36.6	11	47.600
1211	46.4	24.4	70.800
1302	8.8	7.3	16.100
1303	28.1	12.5	40.600
1304	21.6	25.8	47.400
1305	7.3	11	18.300
1306	28.6	35.9	64.500
1307	39.2	33.4	72.600
1308	50.2	7.9	58.100
1309	54.3	12.1	66.400
1310	36.7	11.1	47.800
1311	43.9	29.6	73.500
1401	21.6	33.2	54.800
1402	8.9	7.4	16.300
1403	28.3	12.2	40.500
1404	21.7	26	47.700
1405	7.3	11.1	18.400
1406	28.8	35.6	64.400
1407	39.4	33.4	72.800
1408	50.4	7.9	58.300
1409	54.4	12.1	66.500
1410	36.8	10.9	47.700
1411	43.5	30.1	73.600
1501	21.7	32.4	54.100
1502	8.9	7.5	16.400
1503	28.4	12.5	40.900
1504	21.3	25.7	47.000

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in MJ/m <sup>2</sup> /yr)	Area adjusted total load (in MJ/m <sup>2</sup> /yr)
1505	7.4	10.9	18.300
1506	28.9	35.7	64.600
1507	39.5	33	72.500
1508	50.5	7.5	58.000
1509	54.5	12.2	66.700
1510	36.7	10.9	47.600
1511	43.6	29.9	73.500
1601	21.9	32.5	54.400
1602	9.1	7.2	16.300
1603	28.6	12.3	40.900
1604	21.4	25.2	46.600
1605	7.4	10.4	17.800
1606	29.1	35.5	64.600
1607	39.7	32.5	72.200
1608	50.6	7.6	58.200
1609	54.6	12.1	66.700
1610	35.7	10.9	46.600
1611	43.8	30.2	74.000
1701	21.9	32.6	54.500
1702	9.2	7.1	16.300
1703	28.8	12.1	40.900
1704	21.5	25.7	47.200
1705	7.5	10.6	18.100
1706	29.2	35.4	64.600
1707	39.9	32	71.900
1708	50.8	7.6	58.400
1709	54.9	12.3	67.200
1710	35.7	11	46.700
1711	45	27.4	72.400
1801	23.6	39	62.600
1802	9.3	7.2	16.500

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in MJ/m <sup>2</sup> /yr)	Area adjusted total load (in MJ/m <sup>2</sup> /yr)
1803	30.6	12.5	43.100
1804	22.7	28.3	51.000
1805	7.6	10.8	18.400
1806	35.8	36.6	72.400
1807	27.2	35.4	62.600
1808	52.6	7.9	60.500
1809	57.2	14.2	71.400
1810	35.8	10.7	46.500
1811	36.9	32	68.900
1901	23.7	39.8	63.500
1902	9.4	7.1	16.500
1903	30.8	12.4	43.200
1904	22.9	28.3	51.200
1905	7.7	10.6	18.300
1906	36	36.3	72.300
1907	27.4	35.3	62.700
1908	52.8	8	60.800
1909	57.2	13.4	70.600
1910	35.9	10.9	46.800
1911	36.9	31.6	68.500
2001	23.8	39.2	63.000
2002	9.5	7.4	16.900
2003	31	12.5	43.500
2004	23	27.9	50.900
2005	7.8	10.5	18.300
2006	36.2	36.4	72.600
2007	27.5	34.1	61.600
2008	52.9	7.9	60.800
2009	57.3	14.1	71.400
2010	36.2	10.7	46.900
2011	37	31.2	68.200

Dwelling no.	Thermal loads		
	Area adjusted heating load (in MJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in MJ/m <sup>2</sup> /yr)	Area adjusted total load (in MJ/m <sup>2</sup> /yr)
2101	23.7	38.2	61.900
2102	9.6	7.2	16.800
2103	31.1	12.1	43.200
2104	23.1	27.9	51.000
2105	7.9	10.4	18.300
2106	36.3	36.1	72.400
2107	27.7	33.6	61.300
2108	53	7.8	60.800
2109	57.7	14	71.700
2110	36.4	10.6	47.000
2111	37.2	31.3	68.500
2201	24	38.7	62.700
2202	9.8	7.2	17.000
2203	31.4	12.2	43.600
2204	23.2	28	51.200
2205	8	10.3	18.300
2206	36.5	36.1	72.600
2207	28	33.6	61.600
2208	53.2	7.8	61.000
2209	57.7	14.1	71.800
2210	36.3	10.7	47.000
2211	37.4	31.2	68.600
2301	29.9	35.8	65.700
2302	10.6	7	17.600
2303	33.6	12.1	45.700
2304	26.10	25.9	52.000
2306	26.5	36.5	63.000
2307	28.3	40.8	69.100
2308	57	7.9	64.900
2309	48.4	12.2	60.600
2310	36.6	10.4	47.000

Dwelling no.	Thermal loads		
	Area adjusted heating load (in MJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in MJ/m <sup>2</sup> /yr)	Area adjusted total load (in MJ/m <sup>2</sup> /yr)
2311	32.6	31.5	64.100
2401	29.9	35.3	65.200
2402	10.7	7.1	17.800
2403	33.8	12.1	45.900
2404	26.1	26	52.100
2405	7.9	9.8	17.700
2406	26.7	36.4	63.100
2407	28.5	41	69.500
2408	57.1	7.9	65.000
2409	48.7	12.1	60.800
2410	36.6	10.2	46.800
2411	33.8	30.1	63.900
2501	30.40	35	65.400
2502	10.80	7.2	18.000
2503	33.9	12.2	46.100
2504	26.7	25.7	52.400
2506	26.8	36.4	63.200
2507	28.6	40.9	69.500
2508	57.3	7.9	65.200
2509	48.70	12.1	60.800
2510	36.8	10.2	47.000
2511	34.2	30.9	65.100
2601	33.20	24.4	57.600
2602	25.9	11.4	37.300
2603	54.8	17	71.800
2604	37.4	32.4	69.800
2605	12.3	13.9	26.200
2606	35.1	37.6	72.700
2607	33.50	39.9	73.400
2608	58.2	8.5	66.700
2609	52.5	14.2	66.700

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in MJ/m <sup>2</sup> /yr)	Area adjusted total load (in MJ/m <sup>2</sup> /yr)
2610	52.1	17.4	69.500
2611	46.2	26.7	72.900
0310, 1301	32.3	13	45.300
All other dwellings	7.9	10.6	18.500

**(c) Common areas and central systems/facilities**

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✓	✓
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✓	✓	✓
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✓	✓	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✓	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✓	✓
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✓	✓

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	4 star	5 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Central water tank - rainwater or stormwater (No. 1)	10000	To collect run-off from at least: - 780 square metres of roof area of buildings in the development - 0 square metres of impervious area in the development - 0 square metres of garden/lawn area in the development - 0 square metres of planter box area in the development (excluding, in each case, any area which drains to, or supplies, any other alternative water supply system).	- irrigation of 825.89 square metres of common landscaped area on the site - car washing in 0 car washing bays on the site
Fire sprinkler system (No. 1)	-	So that fire sprinkler test water is contained within the fire sprinkler system for re-use, rather than disposed.	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✓	✓
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✓	✓
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✓	✓	✓

Common area	Common area ventilation system		Common area lighting		
	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/ BMS
Lift bank (No. 1)	-	-	light-emitting diode	connected to lift call button	yes
Lift bank (No. 2)	-	-	light-emitting diode	connected to lift call button	yes
Waste Rooms	ventilation exhaust only	-	light-emitting diode	motion sensors	yes
Waste Rooms - LG	ventilation exhaust only	-	light-emitting diode	motion sensors	yes
Communal Rooms	air conditioning system	time clock or BMS controlled	light-emitting diode	motion sensors	yes
PCU - LG	ventilation (supply + exhaust)	thermostatically controlled	light-emitting diode	motion sensors	yes
FCR - LG	no mechanical ventilation	-	light-emitting diode	motion sensors	yes
MSB - LG	air conditioning system	thermostatically controlled	light-emitting diode	motion sensors	yes
Substation -UG	ventilation supply only	thermostatically controlled	light-emitting diode	motion sensors	yes
SP Fan - UG + L27	no mechanical ventilation	-	light-emitting diode	motion sensors	yes
SPR Fan - L27	no mechanical ventilation	-	light-emitting diode	motion sensors	yes
Firestairs	no mechanical ventilation	-	light-emitting diode	time clock and motion sensors	yes
Retail Storage - LG	no mechanical ventilation	-	light-emitting diode	motion sensors	yes
Office - LG	air conditioning system	time clock or BMS controlled	light-emitting diode	motion sensors	yes
Cinema - LG	air conditioning system	time clock or BMS controlled	light-emitting diode	time clock and motion sensors	yes
Workspace - LG	air conditioning system	time clock or BMS controlled	light-emitting diode	time clock and motion sensors	yes
Storage - L9	no mechanical ventilation	-	light-emitting diode	motion sensors	yes

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/ BMS
Lobby/Lounge - LG	air conditioning system	time clock or BMS controlled	light-emitting diode	time clock and motion sensors	yes
Hallways	no mechanical ventilation	-	light-emitting diode	time clock and motion sensors	yes
Hot water Plant - L27	no mechanical ventilation	-	light-emitting diode	motion sensors	yes

Central energy systems	Type	Specification
Lift bank (No. 1)	gearless traction with V V V F motor and regenerative drive	Number of levels (including basement): 25 number of levels from the bottom of the lift shaft to the top of the lift shaft: 31 number of lifts: 2 lift load capacity: >1500kg
Lift bank (No. 2)	gearless traction with V V V F motor and regenerative drive	Number of levels (including basement): 25 number of levels from the bottom of the lift shaft to the top of the lift shaft: 31 number of lifts: 2 lift load capacity: >1500kg
Central hot water system (No. 1)	electric heat pump – air sourced	Piping insulation (ringmain & supply risers): (a) Piping external to building: R0.6 (~25 mm); (b) Piping internal to building: R0.6 (~25 mm) (c) Unit Efficiency: 3.5 < COP <= 4.0

## 2. Commitments for multi-dwelling housing

### (a) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✓	✓	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✓	✓
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✓	✓
(e) The applicant must install:			
(aa) a hot water diversion system to all showers, kitchen sinks and all basins in the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below; and		✓	✓
(bb) a separate diversion tank (or tanks) connected to the hot water diversion systems of at least 100 litres. The applicant must connect the hot water diversion tank to all toilets in the dwelling.		✓	✓
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✓	✓	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✓	
(g) The pool or spa must be located as specified in the table.	✓	✓	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✓	✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✓	✓	✓
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✓	✓
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✓	✓
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✓	✓	✓
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: <ul style="list-style-type: none"> <li>(aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and</li> <li>(bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.</li> </ul>		✓	
(h) The applicant must install in the dwelling: <ul style="list-style-type: none"> <li>(aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances &amp; other efficiency measures" column of the table below;</li> <li>(bb) each appliance for which a rating is specified for that dwelling in the "Appliances &amp; other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and</li> <li>(cc) any clothes drying line specified for the dwelling in the "Appliances &amp; other efficiency measures" column of the table.</li> </ul>		✓	✓
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✓	
(iii) Thermal Performance	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			

(iii) Thermal Performance	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.	✓		
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.		✓	
(f) The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✓	✓
(g) Where there is an in-slab heating or cooling system, the applicant must:			
(aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or	✓	✓	✓
(bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab.			
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✓	✓	✓
(i) The applicant must show on The plans accompanying The development application for The proposed development, The locations of ceiling fans set out in The Assessor Certificate.	✓		
(j) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), the locations of ceiling fans set out in the Assessor Certificate.		✓	

### 3. Commitments for single dwelling houses

#### (a) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✓	✓	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✓	✓
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✓	✓
(e) The applicant must install:			
(aa) a hot water diversion system to all showers, kitchen sinks and all basins in the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below; and		✓	✓
(bb) a separate diversion tank (or tanks) connected to the hot water diversion systems of at least 100 litres. The applicant must connect the hot water diversion tank to all toilets in the dwelling.		✓	✓
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✓	✓	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✓	
(g) The pool or spa must be located as specified in the table.	✓	✓	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✓	✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✓	✓	✓
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✓	✓
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✓	✓
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✓	✓	✓
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: <ul style="list-style-type: none"> <li>(aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and</li> <li>(bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.</li> </ul>		✓	
(h) The applicant must install in the dwelling: <ul style="list-style-type: none"> <li>(aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances &amp; other efficiency measures" column of the table below;</li> <li>(bb) each appliance for which a rating is specified for that dwelling in the "Appliances &amp; other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and</li> <li>(cc) any clothes drying line specified for the dwelling in the "Appliances &amp; other efficiency measures" column of the table.</li> </ul>		✓	✓
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✓	
(iii) Thermal Performance	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			

(iii) Thermal Performance	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.	✓		
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.		✓	
(f) The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✓	✓
(g) Where there is an in-slab heating or cooling system, the applicant must:			
(aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or	✓	✓	✓
(bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab.			
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✓	✓	✓
(i) The applicant must show on The plans accompanying The development application for The proposed development, The locations of ceiling fans set out in The Assessor Certificate.	✓		
(j) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), the locations of ceiling fans set out in the Assessor Certificate.		✓	

#### 4. Commitments for common areas and central systems/facilities for the development (non-building specific)

##### (a) Buildings 'Other'

(i) Materials	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Floor types", "External wall types", "Internal wall types", "Ceiling and roof types", "Frames" and "Glazing" tables below.			✓
(b) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all specifications included in the tables below.		✓	
(c) The applicant must construct the floors, walls, roof, ceiling and roof, windows, glazed doors and skylights of the development in accordance with the specifications listed in the tables below. In the case of glazing, a 5% variance from the area values listed in the "Frames" and "Glazing" tables is permitted.	✓	✓	✓
(d) The applicant must show through receipts that the materials purchased for construction are consistent with the specifications listed in the below tables.			✓

Floor types			
Floor type	Area (m2)	Insulation	Low emissions option
suspended floor above enclosed subfloor, frame: suspended concrete slab	5628	fibreglass batts or roll	-

External wall types				
External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	concrete block/plasterboard, frame: light steel frame	18600	-	fibreglass batts or roll
External wall type 2	cavity brick, frame: timber - H2 treated softwood	200	-	-

Internal wall types			
Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	75 mm AAC panel, frame: light steel frame	9500	-
Internal wall type 2	cavity brick wall, frame: timber - H2 treated softwood	600	-

Reinforcement concrete frames/columns		
Building has reinforced concrete frame/columns?	Volume (m <sup>3</sup> )	Low emissions option
-	-	-

Ceiling and roof types			
Ceiling and roof type	Area (m <sup>2</sup> )	Roof Insulation	Ceiling Insulation
concrete - plasterboard internal, frame: light steel frame	281	-	fibreglass batts or roll

Glazing types			Frame types					
Single glazing (m <sup>2</sup> )	Double glazing (m <sup>2</sup> )	Triple glazing (m <sup>2</sup> )	Aluminium frames (m <sup>2</sup> )	Timber frames (m <sup>2</sup> )	uPVC frames (m <sup>2</sup> )	Steel frames (m <sup>2</sup> )	Composite frames (m <sup>2</sup> )	
500	0	0	500	0	0	0	0	

**(b) Common areas and central systems/facilities**

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✓	✓
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✓	✓	✓
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✓	✓	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✓	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✓	✓
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✓	✓

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	4 star	5 star	no common laundry facility

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✓	✓
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✓	✓
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✓	✓	✓

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/ BMS
Carpark Area	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	time clock and motion sensors	yes
Bike Storage - Carpark	ventilation (supply + exhaust)	none i.e., continuous	light-emitting diode	time clock and motion sensors	yes
Fan Room - Carpark	ventilation exhaust only	none i.e., continuous	light-emitting diode	motion sensors	yes
Bulky Waste - Basement	ventilation exhaust only	-	light-emitting diode	motion sensors	yes
DAS - B3	air conditioning system	thermostatically controlled	light-emitting diode	motion sensors	yes
Subsoil pump -B3	ventilation supply only	thermostatically controlled	light-emitting diode	motion sensors	yes
Rainwater Plant - B1	ventilation supply only	thermostatically controlled	light-emitting diode	motion sensors	yes
NBN/COMMS - B2	air conditioning system	none i.e., continuous	light-emitting diode	motion sensors	yes
Fire pump - B1	ventilation (supply + exhaust)	thermostatically controlled	light-emitting diode	motion sensors	yes
Security -B1	air conditioning system	thermostatically controlled	light-emitting diode	motion sensors	yes
PB Pump - B1	ventilation supply only	thermostatically controlled	light-emitting diode	motion sensors	yes
GA Room	ventilation (supply + exhaust)	thermostatically controlled	light-emitting diode	motion sensors	yes

Central energy systems	Type	Specification
Alternative energy supply	Photovoltaic system	Rated electrical output (min): 45 peak kW
Other	Building management system installed?: yes	-

## Notes

1. In these commitments, "applicant" means the person carrying out the development.
2. The applicant must identify each dwelling, building and common area listed in this certificate, on the plans accompanying any development application, and on the plans and specifications accompanying the application for a construction certificate / complying development certificate, for the proposed development, using the same identifying letter or reference as is given to that dwelling, building or common area in this certificate.
3. This note applies if the proposed development involves the erection of a building for both residential and non-residential purposes (or the change of use of a building for both residential and non-residential purposes). Commitments in this certificate which are specified to apply to a "common area" of a building or the development, apply only to that part of the building or development to be used for residential purposes.
4. If this certificate lists a central system as a commitment for a dwelling or building, and that system will also service any other dwelling or building within the development, then that system need only be installed once (even if it is separately listed as a commitment for that other dwelling or building).
5. If a star or other rating is specified in a commitment, this is a minimum rating.
6. All alternative water systems to be installed under these commitments (if any), must be installed in accordance with the requirements of all applicable regulatory authorities. NOTE: NSW Health does not recommend that stormwater, recycled water or private dam water be used to irrigate edible plants which are consumed raw, or that rainwater be used for human consumption in areas with potable water supply.

## Legend

1. Commitments identified with a "✓" in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).
2. Commitments identified with a "✓" in the "Show on CC/CDC plans and specs" column must be shown in the plans and specifications accompanying the application for a construction certificate / complying development certificate for the proposed development.
3. Commitments identified with a "✓" in the "Certifier check" column must be certified by a certifying authority as having been fulfilled. (Note: a certifying authority must not issue an occupation certificate (either interim or final) for a building listed in this certificate, or for any part of such a building, unless it is satisfied that each of the commitments whose fulfilment it is required to monitor in relation to the building or part, has been fulfilled).

## **APPENDIX B NATHERS CERTIFICATE**



## Class 2 Summary

NatHERS® Certificate No. 176VX2JMFZ

Generated on 9 Apr 2024 using FirstRate5 v5.5.4

## Property

## Address

52 Scott Street,  
Liverpool, NSW, 2170

## Lot/DP

## NatHERS Climate Zone

28



## Accredited assessor

## Name

E-LAB Consulting

## Business name

E-LAB Consulting

## Email

alex.kobler@e-lab.com.au

## Phone

0447343451

## Accreditation No.

DMN/20/1972

## Assessor Accrediting Organisation

## Verification

To verify this certificate, scan the QR code or visit <https://www.fr5.com.au/QRCodeLanding?PublicId=176VX2JMFZ&GrpCert=1>



When using either link, ensure you are visiting [www.fr5.com.au](http://www.fr5.com.au).

## National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at [www.abcb.gov.au](http://www.abcb.gov.au).

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

## Summary of all dwellings

Certificate number and link	Unit number	Heating load (load limit) [MJ/m <sup>2</sup> /p.a.]	Cooling load (load limit) [MJ/m <sup>2</sup> /p.a.]	Total load [MJ/m <sup>2</sup> /p.a.]	Star rating	Whole of Home Rating
U7AF49EW31		35.80 ( N/A )	38.30 ( N/A )	74.10	6.3	NA
ZZCKGNFR7Q	1	23.20 ( N/A )	28.30 ( N/A )	51.50	7.4	NA

NATIONWIDE  
HOUSE  
ENERGY RATING SCHEME®

The rating above is the average of all dwellings in this summary.

For more information on your dwelling's rating see:  
[www.nathers.gov.au](http://www.nathers.gov.au)

NCC heating and cooling maximum loads MJ/m<sup>2</sup>/p.a.

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled block average	30.1	20.3
Maximum allowable limit	N/A	N/A

## Whole of Home performance rating

No Whole of Home performance rating conducted for this summary certificate or not completed for all dwellings

The rating above is the lowest of all dwellings in this summary



## Summary of all dwellings

Certificate number and link	Unit number	Heating load (load limit) [MJ/m <sup>2</sup> /p.a.]	Cooling load (load limit) [MJ/m <sup>2</sup> /p.a.]	Total load [MJ/m <sup>2</sup> /p.a.]	Star rating	Whole of Home Rating
AUDUYD4JLP	10	26.90 ( N/A )	16.40 ( N/A )	43.30	7.9	NA
FRC2LD9GNJ	1001	23.40 ( N/A )	18.80 ( N/A )	42.20	7.9	NA
PRWDIF0CEN	1002	8.40 ( N/A )	7.10 ( N/A )	15.50	9.4	NA
E4B6FEZPJ4	1003	26.20 ( N/A )	12.00 ( N/A )	38.20	8.2	NA
OT61CD3CB1	1004	20.80 ( N/A )	23.30 ( N/A )	44.10	7.8	NA
JNGF5BVP1M	1005	7.00 ( N/A )	11.20 ( N/A )	18.20	9.3	NA
MCNAUKPFXH	1006	31.90 ( N/A )	30.20 ( N/A )	62.10	6.9	NA
OU7S46U4BE	1007	43.70 ( N/A )	26.60 ( N/A )	70.30	6.4	NA
MYAND0Y6AD	1008	48.00 ( N/A )	7.00 ( N/A )	55.00	7.3	NA
SKX6RMF5G2	1009	52.30 ( N/A )	10.40 ( N/A )	62.70	6.9	NA
SMU0H33BNU	101	21.80 ( N/A )	28.00 ( N/A )	49.80	7.6	NA
YXP4NZPKX9	1010	36.20 ( N/A )	11.00 ( N/A )	47.20	7.7	NA
R1OXAYBA63	1011	50.20 ( N/A )	23.00 ( N/A )	73.20	6.3	NA
QQ3EMYUY68	102	4.20 ( N/A )	10.40 ( N/A )	14.60	9.5	NA
D8HWEA4JQB	103	20.60 ( N/A )	15.00 ( N/A )	35.60	8.3	NA
Q1E5SUEOPL	104	7.70 ( N/A )	48.50 ( N/A )	56.20	7.2	NA
CBL2EZMZLW	105	22.60 ( N/A )	24.30 ( N/A )	46.90	7.7	NA
FHKLQUE8VG	106	27.30 ( N/A )	21.80 ( N/A )	49.10	7.6	NA
9TUMEYM7V1	107	17.10 ( N/A )	29.30 ( N/A )	46.40	7.7	NA
TGJV5BWPRP	108	16.20 ( N/A )	40.40 ( N/A )	56.60	7.2	NA
XF836IR2P7	109	28.50 ( N/A )	18.50 ( N/A )	47.00	7.7	NA
NKCH5UWRDI	11	20.80 ( N/A )	46.50 ( N/A )	67.30	6.6	NA
PF2ILTQ9YQ	110	28.00 ( N/A )	15.90 ( N/A )	43.90	7.9	NA
VSFTYD6ABS	1101	23.70 ( N/A )	21.40 ( N/A )	45.10	7.8	NA
OZXIPYIGAO	1102	8.40 ( N/A )	7.20 ( N/A )	15.60	9.4	NA
LBWAW16963	1103	26.20 ( N/A )	11.90 ( N/A )	38.10	8.2	NA
LF8MGFS6FJ	1104	20.90 ( N/A )	23.30 ( N/A )	44.20	7.8	NA
2PW2J2DFHL	1105	7.10 ( N/A )	10.80 ( N/A )	17.90	9.3	NA
P4ASSU6E67	1106	32.00 ( N/A )	30.00 ( N/A )	62.00	6.9	NA
G7DHGU0KCK	1107	43.70 ( N/A )	26.20 ( N/A )	69.90	6.5	NA
FMB0W50314	1108	48.10 ( N/A )	7.00 ( N/A )	55.10	7.3	NA
X11VNRFQ4V	1109	52.40 ( N/A )	10.30 ( N/A )	62.70	6.9	NA
NPDTD88ZPO	111	14.10 ( N/A )	49.60 ( N/A )	63.70	6.8	NA
IO9IC4LOVY	1110	36.40 ( N/A )	11.00 ( N/A )	47.40	7.7	NA
B2D7GD2J5W	1111	49.50 ( N/A )	24.50 ( N/A )	74.00	6.3	NA
7ZRGS4V0P5	112	52.50 ( N/A )	11.90 ( N/A )	64.40	6.8	NA
HTRYMNNAJM	113	44.70 ( N/A )	12.70 ( N/A )	57.40	7.1	NA



## Summary of all dwellings

Certificate number and link	Unit number	Heating load (load limit) [MJ/m <sup>2</sup> /p.a.]	Cooling load (load limit) [MJ/m <sup>2</sup> /p.a.]	Total load [MJ/m <sup>2</sup> /p.a.]	Star rating	Whole of Home Rating
VX0BBIBO07	114	38.50 ( N/A )	10.80 ( N/A )	49.30	7.6	NA
GCNCJPFS4Z	1201	22.80 ( N/A )	24.20 ( N/A )	47.00	7.7	NA
PJQQB1M3X1	1202	8.70 ( N/A )	7.30 ( N/A )	16.00	9.4	NA
UAIC25Y4OK	1203	26.50 ( N/A )	11.70 ( N/A )	38.20	8.2	NA
Y5VHPFB78X	1204	21.20 ( N/A )	22.70 ( N/A )	43.90	7.9	NA
Z2U6I1LW5O	1205	7.20 ( N/A )	10.70 ( N/A )	17.90	9.3	NA
09VDCG4KJO	1206	28.30 ( N/A )	30.40 ( N/A )	58.70	7.1	NA
1LDTATYJA5	1207	38.60 ( N/A )	26.70 ( N/A )	65.30	6.7	NA
0P4AC2PL3B	1208	48.40 ( N/A )	6.70 ( N/A )	55.10	7.3	NA
TB8ATZKRFJ	1209	52.70 ( N/A )	10.40 ( N/A )	63.10	6.8	NA
L0YU5NYA6Y	1210	36.60 ( N/A )	11.00 ( N/A )	47.60	7.7	NA
THSARDESNZ	1211	46.40 ( N/A )	24.40 ( N/A )	70.80	6.4	NA
LWTCG1EJEB	1301	22.20 ( N/A )	33.00 ( N/A )	55.20	7.3	NA
XD6553961N	1302	8.80 ( N/A )	7.30 ( N/A )	16.10	9.4	NA
T3QBHMM6QE	1303	28.10 ( N/A )	12.50 ( N/A )	40.60	8	NA
03G9TTFSQF	1304	21.60 ( N/A )	25.80 ( N/A )	47.40	7.7	NA
G8LVA6O0NB	1305	7.30 ( N/A )	11.00 ( N/A )	18.30	9.3	NA
09K0NSFS54	1306	28.60 ( N/A )	35.90 ( N/A )	64.50	6.8	NA
PH3AL367ML	1307	39.20 ( N/A )	33.40 ( N/A )	72.60	6.4	NA
YQPVHVR4BL	1308	49.80 ( N/A )	7.30 ( N/A )	57.10	7.2	NA
7VTOO0TQVA	1309	54.30 ( N/A )	12.10 ( N/A )	66.40	6.7	NA
OXXW08ELKG	1310	36.70 ( N/A )	11.10 ( N/A )	47.80	7.7	NA
9QOBNJTYT2	1311	43.90 ( N/A )	29.60 ( N/A )	73.50	6.3	NA
AKRU63XPVV	1401	21.60 ( N/A )	33.20 ( N/A )	54.80	7.3	NA
KQML7A335I	1402	8.90 ( N/A )	7.40 ( N/A )	16.30	9.4	NA
QGU4LRHRAF	1403	28.30 ( N/A )	12.20 ( N/A )	40.50	8	NA
G462ADGD06	1404	21.70 ( N/A )	26.00 ( N/A )	47.70	7.7	NA
KZZZ6TDDEM	1405	7.30 ( N/A )	11.10 ( N/A )	18.40	9.3	NA
Q03LM30WIO	1406	28.80 ( N/A )	35.60 ( N/A )	64.40	6.8	NA
WGOQOPTUK3	1407	39.40 ( N/A )	33.40 ( N/A )	72.80	6.3	NA
4ZD971Q582	1408	50.00 ( N/A )	7.10 ( N/A )	57.10	7.2	NA
OENYYPBVQG	1409	54.40 ( N/A )	12.10 ( N/A )	66.50	6.7	NA
NT5LJEKJKQ	1410	36.80 ( N/A )	10.90 ( N/A )	47.70	7.7	NA
9T2LS1X4NU	1411	43.50 ( N/A )	30.10 ( N/A )	73.60	6.3	NA
N5YP9S3018	1501	21.70 ( N/A )	32.40 ( N/A )	54.10	7.3	NA
O7EDQK41Z2	1502	8.90 ( N/A )	7.50 ( N/A )	16.40	9.4	NA



## Summary of all dwellings

Certificate number and link	Unit number	Heating load (load limit) [MJ/m <sup>2</sup> /p.a.]	Cooling load (load limit) [MJ/m <sup>2</sup> /p.a.]	Total load [MJ/m <sup>2</sup> /p.a.]	Star rating	Whole of Home Rating
RGUR25MBF7	1503	28.40 ( N/A )	12.50 ( N/A )	40.90	8	NA
LUSLCBOY4H	1504	21.30 ( N/A )	25.70 ( N/A )	47.00	7.7	NA
66EUDGKHXE	1505	7.40 ( N/A )	10.90 ( N/A )	18.30	9.3	NA
PPP7R6XJO1	1506	28.90 ( N/A )	35.70 ( N/A )	64.60	6.8	NA
QXH7A6CX2W	1507	39.50 ( N/A )	33.00 ( N/A )	72.50	6.4	NA
HY2HVU9ZF5	1508	50.10 ( N/A )	7.20 ( N/A )	57.30	7.1	NA
MGN62RQGDG	1509	54.50 ( N/A )	12.20 ( N/A )	66.70	6.7	NA
SB25YSUX2J	1510	36.70 ( N/A )	10.90 ( N/A )	47.60	7.7	NA
9LVJ5Z5BD7	1511	43.60 ( N/A )	29.90 ( N/A )	73.50	6.3	NA
AM660J0ZGB	1601	21.90 ( N/A )	32.50 ( N/A )	54.40	7.3	NA
4J4GJU7JQO	1602	9.10 ( N/A )	7.20 ( N/A )	16.30	9.4	NA
IJSJ3JS4UT	1603	28.60 ( N/A )	12.30 ( N/A )	40.90	8	NA
50XK7UCH2F	1604	21.40 ( N/A )	25.20 ( N/A )	46.60	7.7	NA
STDDYGANMT	1605	7.40 ( N/A )	10.40 ( N/A )	17.80	9.3	NA
JWPF304WCQ	1606	29.10 ( N/A )	35.50 ( N/A )	64.60	6.8	NA
16FXFEVTJY	1607	39.70 ( N/A )	32.50 ( N/A )	72.20	6.4	NA
R0QL5ZGOVX	1608	50.20 ( N/A )	7.20 ( N/A )	57.40	7.1	NA
JESAJIKSQG	1609	54.60 ( N/A )	12.10 ( N/A )	66.70	6.7	NA
0PFLNVOQ7U	1610	35.70 ( N/A )	10.90 ( N/A )	46.60	7.7	NA
UQEXBTFEJE	1611	44.00 ( N/A )	30.10 ( N/A )	74.10	6.3	NA
UPBOHXOEN7	1701	21.90 ( N/A )	32.60 ( N/A )	54.50	7.3	NA
3DDC8BUE7J	1702	9.20 ( N/A )	7.10 ( N/A )	16.30	9.4	NA
KZQBC29590	1703	28.80 ( N/A )	12.10 ( N/A )	40.90	8	NA
DGIMWK00E0	1704	21.50 ( N/A )	25.70 ( N/A )	47.20	7.7	NA
HKCA0RN CYA	1705	7.50 ( N/A )	10.60 ( N/A )	18.10	9.3	NA
8AG9348ALP	1706	29.20 ( N/A )	35.40 ( N/A )	64.60	6.8	NA
XTFX3W41QX	1707	39.90 ( N/A )	32.00 ( N/A )	71.90	6.4	NA
X4AHCAKQKV	1708	50.40 ( N/A )	7.20 ( N/A )	57.60	7.1	NA
O7G82CAJS1	1709	54.90 ( N/A )	12.30 ( N/A )	67.20	6.6	NA
LNOYDXEOGE	1710	35.70 ( N/A )	11.00 ( N/A )	46.70	7.7	NA
XWVAMD9873	1711	45.00 ( N/A )	27.40 ( N/A )	72.40	6.4	NA
GSZ0AZMG51	1801	23.60 ( N/A )	39.00 ( N/A )	62.60	6.9	NA
VUIYMQMEO	1802	9.30 ( N/A )	7.20 ( N/A )	16.50	9.4	NA
5IJG72MGWY	1803	30.60 ( N/A )	12.50 ( N/A )	43.10	7.9	NA
CBL YU3XXXN	1804	22.70 ( N/A )	28.30 ( N/A )	51.00	7.5	NA
K8TPSCN7YD	1805	7.60 ( N/A )	10.80 ( N/A )	18.40	9.3	NA



## Summary of all dwellings

Certificate number and link	Unit number	Heating load (load limit) [MJ/m <sup>2</sup> /p.a.]	Cooling load (load limit) [MJ/m <sup>2</sup> /p.a.]	Total load [MJ/m <sup>2</sup> /p.a.]	Star rating	Whole of Home Rating
XX4S88IT2I	1806	35.80 ( N/A )	36.60 ( N/A )	72.40	6.4	NA
NGUGYTJUDS	1807	27.20 ( N/A )	35.40 ( N/A )	62.60	6.9	NA
V2Y0D6Z4X5	1808	52.10 ( N/A )	7.90 ( N/A )	60.00	7	NA
OORSBOH2ZW	1809	57.20 ( N/A )	14.20 ( N/A )	71.40	6.4	NA
UE4OADM08	1810	35.80 ( N/A )	10.70 ( N/A )	46.50	7.7	NA
P5TVGDG56TC	1811	36.90 ( N/A )	32.00 ( N/A )	68.90	6.6	NA
2NT39SNDTW	1901	23.70 ( N/A )	39.80 ( N/A )	63.50	6.8	NA
BBQHTSHSFG	1902	9.40 ( N/A )	7.10 ( N/A )	16.50	9.4	NA
V1ET3IV58T	1903	30.80 ( N/A )	12.40 ( N/A )	43.20	7.9	NA
ZF63K9TTUI	1904	22.90 ( N/A )	28.30 ( N/A )	51.20	7.4	NA
XQOMOKU0OR	1905	7.70 ( N/A )	10.60 ( N/A )	18.30	9.3	NA
RUXEBAI991	1906	36.00 ( N/A )	36.30 ( N/A )	72.30	6.4	NA
7SFA76FX7U	1907	27.40 ( N/A )	35.30 ( N/A )	62.70	6.9	NA
9Y77SEN2ES	1908	52.20 ( N/A )	7.90 ( N/A )	60.10	6.9	NA
X4QQBER21J	1909	57.20 ( N/A )	13.40 ( N/A )	70.60	6.4	NA
0TU3KFLOOS	1910	35.90 ( N/A )	10.90 ( N/A )	46.80	7.7	NA
F634S3W0V6	1911	36.90 ( N/A )	31.60 ( N/A )	68.50	6.6	NA
0POVJGT5BU	2	7.20 ( N/A )	10.50 ( N/A )	17.70	9.3	NA
XQ4RDCCY83	2001	23.80 ( N/A )	39.20 ( N/A )	63.00	6.8	NA
OM6X3PEEWN	2002	9.50 ( N/A )	7.40 ( N/A )	16.90	9.4	NA
38NWM0AV7I	2003	31.00 ( N/A )	12.50 ( N/A )	43.50	7.9	NA
R1G4VJZCZH	2004	23.00 ( N/A )	27.90 ( N/A )	50.90	7.5	NA
DWPVE3AFBD	2005	7.80 ( N/A )	10.50 ( N/A )	18.30	9.3	NA
ZREIDYDIEM	2006	36.20 ( N/A )	36.40 ( N/A )	72.60	6.4	NA
BQ10LXFBC	2007	27.50 ( N/A )	34.10 ( N/A )	61.60	6.9	NA
0BPOJGT2RT	2008	52.40 ( N/A )	7.70 ( N/A )	60.10	6.9	NA
Z5T4T9W807	2009	57.30 ( N/A )	14.10 ( N/A )	71.40	6.4	NA
K1NAA0YWZR	201	21.80 ( N/A )	21.50 ( N/A )	43.30	7.9	NA
GQ7MFW5ZJR	2010	36.20 ( N/A )	10.70 ( N/A )	46.90	7.7	NA
X9DSNXCZ87	2011	37.00 ( N/A )	31.20 ( N/A )	68.20	6.6	NA
7ZT3I37PHZ	202	5.60 ( N/A )	9.10 ( N/A )	14.70	9.5	NA
V7QC3K9PEK	203	21.30 ( N/A )	15.70 ( N/A )	37.00	8.3	NA
2HARVPGRXW	204	16.30 ( N/A )	28.10 ( N/A )	44.40	7.8	NA
Z0L1P5D72I	205	25.70 ( N/A )	22.00 ( N/A )	47.70	7.7	NA
KWHAMMLKH0	206	31.10 ( N/A )	18.40 ( N/A )	49.50	7.6	NA
0ISOZ0ZBH3	207	19.80 ( N/A )	22.10 ( N/A )	41.90	7.9	NA



## Summary of all dwellings

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WQ1VA4WYX7	208	20.70 ( N/A )	34.50 ( N/A )	55.20	7.3	NA
GBX5AFA9FJ	209	32.20 ( N/A )	14.30 ( N/A )	46.50	7.7	NA
D6K75QI6CZ	210	31.70 ( N/A )	13.10 ( N/A )	44.80	7.8	NA
FK1VXG76GL	2101	23.70 ( N/A )	38.20 ( N/A )	61.90	6.9	NA
K3S9501BR5	2102	9.60 ( N/A )	7.20 ( N/A )	16.80	9.4	NA
769216YMZ9	2103	31.10 ( N/A )	12.10 ( N/A )	43.20	7.9	NA
Z8S8QQY8FD	2104	23.10 ( N/A )	27.90 ( N/A )	51.00	7.5	NA
UARLXL1106	2105	7.90 ( N/A )	10.40 ( N/A )	18.30	9.3	NA
O5PLODHSNQ	2106	36.30 ( N/A )	36.10 ( N/A )	72.40	6.4	NA
V1MJ8LLUTO	2107	27.70 ( N/A )	33.60 ( N/A )	61.30	6.9	NA
C35NK6PYFP	2108	52.50 ( N/A )	7.60 ( N/A )	60.10	6.9	NA
E7W3U3THUM	2109	57.70 ( N/A )	14.00 ( N/A )	71.70	6.4	NA
GBZ9V34VAS	211	15.70 ( N/A )	48.90 ( N/A )	64.60	6.8	NA
JFVZS3XHML	2110	36.40 ( N/A )	10.60 ( N/A )	47.00	7.7	NA
AHIL4V9BAR	2111	37.20 ( N/A )	31.30 ( N/A )	68.50	6.6	NA
ZXWJTYVWOT	212	46.70 ( N/A )	10.00 ( N/A )	56.70	7.2	NA
6ZEWF6CZNU	213	44.40 ( N/A )	10.30 ( N/A )	54.70	7.3	NA
GF3XLZ6HKT	214	40.10 ( N/A )	9.60 ( N/A )	49.70	7.6	NA
YTM7LXETZE	2201	24.00 ( N/A )	38.70 ( N/A )	62.70	6.9	NA
2EAGF6IG5R	2202	9.80 ( N/A )	7.20 ( N/A )	17.00	9.4	NA
JIL4P7YK89	2203	31.40 ( N/A )	12.20 ( N/A )	43.60	7.9	NA
4RGCY03XO4	2204	23.20 ( N/A )	28.00 ( N/A )	51.20	7.4	NA
YDSIS6HCG7	2205	8.00 ( N/A )	10.30 ( N/A )	18.30	9.3	NA
N3GTIPHSSO	2206	36.50 ( N/A )	36.10 ( N/A )	72.60	6.4	NA
84U0KL77RP	2207	28.00 ( N/A )	33.60 ( N/A )	61.60	6.9	NA
DU1B3F0DLS	2208	52.70 ( N/A )	7.60 ( N/A )	60.30	6.9	NA
ZWEBVAKX4J	2209	57.00 ( N/A )	13.40 ( N/A )	70.40	6.4	NA
SKFA53S27G	2210	36.30 ( N/A )	10.70 ( N/A )	47.00	7.7	NA
8KU042BEZC	2211	37.40 ( N/A )	31.20 ( N/A )	68.60	6.6	NA
ZDG9YM0TEJ	2301	29.90 ( N/A )	35.80 ( N/A )	65.70	6.7	NA
AKCI62P1G9	2302	10.60 ( N/A )	7.00 ( N/A )	17.60	9.3	NA
X7GEUPCNG3	2303	33.60 ( N/A )	12.10 ( N/A )	45.70	7.8	NA
8G72TPDGLT	2304	26.10 ( N/A )	25.90 ( N/A )	52.00	7.4	NA
D9XYGYHM4B	2305	7.90 ( N/A )	10.60 ( N/A )	18.50	9.3	NA
WNR6UDWR3V	2306	26.50 ( N/A )	36.50 ( N/A )	63.00	6.9	NA
CHC1OAJ6J6	2307	28.30 ( N/A )	40.80 ( N/A )	69.10	6.5	NA



## Summary of all dwellings

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VVC5IFYDAG	2308	56.30 ( N/A )	7.60 ( N/A )	63.90	6.8	NA
IT38I28HQC	2309	47.20 ( N/A )	11.60 ( N/A )	58.80	7.1	NA
MDNT0BU78Q	2310	36.60 ( N/A )	10.40 ( N/A )	47.00	7.7	NA
MA88AZD3KX	2311	32.60 ( N/A )	31.50 ( N/A )	64.10	6.8	NA
9OT1YF9ZO0	2401	29.90 ( N/A )	35.30 ( N/A )	65.20	6.7	NA
XS60ZVLQ8Y	2402	10.70 ( N/A )	7.10 ( N/A )	17.80	9.3	NA
RVPS2Y2MY5	2403	33.80 ( N/A )	12.10 ( N/A )	45.90	7.8	NA
ZJIZEWNM8P	2404	26.10 ( N/A )	26.00 ( N/A )	52.10	7.4	NA
MN1BYKBX5Y	2405	7.90 ( N/A )	9.80 ( N/A )	17.70	9.3	NA
2RJPHN9A8A	2406	26.70 ( N/A )	36.40 ( N/A )	63.10	6.8	NA
MXATANKGVD	2407	28.50 ( N/A )	41.00 ( N/A )	69.50	6.5	NA
H8SSLE3O3S	2408	56.50 ( N/A )	7.70 ( N/A )	64.20	6.8	NA
WFQ9CI92R1	2409	48.40 ( N/A )	12.10 ( N/A )	60.50	6.9	NA
XNO7DZMIAK	2410	36.60 ( N/A )	10.20 ( N/A )	46.80	7.7	NA
95B2R481DD	2411	33.80 ( N/A )	30.10 ( N/A )	63.90	6.8	NA
TVGQNGGBQ2	2501	30.40 ( N/A )	35.00 ( N/A )	65.40	6.7	NA
NRY3P4TUPW	2502	10.80 ( N/A )	7.20 ( N/A )	18.00	9.3	NA
1VNTS1DXSI	2503	33.90 ( N/A )	12.20 ( N/A )	46.10	7.7	NA
JIZOHCG7U6	2504	26.70 ( N/A )	25.70 ( N/A )	52.40	7.4	NA
SL1H7SGIMX	2505	7.90 ( N/A )	10.60 ( N/A )	18.50	9.3	NA
KNLRL7HX8V	2506	26.80 ( N/A )	36.40 ( N/A )	63.20	6.8	NA
DSSITF2KWM	2507	28.60 ( N/A )	40.90 ( N/A )	69.50	6.5	NA
XVATEQ4FWA	2508	56.60 ( N/A )	7.60 ( N/A )	64.20	6.8	NA
V5K5856IDJ	2509	48.70 ( N/A )	12.10 ( N/A )	60.80	6.9	NA
4T98292TY1	2510	36.80 ( N/A )	10.20 ( N/A )	47.00	7.7	NA
Z6W99YN2M4	2511	34.20 ( N/A )	30.90 ( N/A )	65.10	6.7	NA
DCB89IIWJX	2601	33.20 ( N/A )	24.40 ( N/A )	57.60	7.1	NA
IUHMREWB0E	2602	25.90 ( N/A )	11.40 ( N/A )	37.30	8.2	NA
XLQ4KZJK5J	2603	54.80 ( N/A )	17.00 ( N/A )	71.80	6.4	NA
SE5IG2RB9U	2604	37.40 ( N/A )	32.40 ( N/A )	69.80	6.5	NA
CLCIH2VHXK	2605	12.30 ( N/A )	13.90 ( N/A )	26.20	8.8	NA
871AEDY8GZ	2606	35.10 ( N/A )	37.60 ( N/A )	72.70	6.3	NA
WVCFNRBOKE	2607	33.50 ( N/A )	39.90 ( N/A )	73.40	6.3	NA
HKNYW4OJ7P	2608	57.40 ( N/A )	8.30 ( N/A )	65.70	6.7	NA
Q0C2JQJ64Z	2609	53.10 ( N/A )	14.30 ( N/A )	67.40	6.6	NA
B6EXULCG1L	2610	52.10 ( N/A )	17.40 ( N/A )	69.50	6.5	NA

## Summary of all dwellings

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37NVJD7HDZ	2611	46.20 ( N/A )	26.70 ( N/A )	72.90	6.3	NA
LPZMJAX5GN	3	24.20 ( N/A )	15.00 ( N/A )	39.20	8.1	NA
2YJQGWS7WE	301	26.60 ( N/A )	20.50 ( N/A )	47.10	7.7	NA
NQUITHO6DH	302	6.40 ( N/A )	8.80 ( N/A )	15.20	9.4	NA
KWU3SSEAP3	303	25.20 ( N/A )	11.90 ( N/A )	37.10	8.2	NA
LY94S45RRW	304	10.30 ( N/A )	35.10 ( N/A )	45.40	7.8	NA
END48U1ZDI	305	26.30 ( N/A )	21.60 ( N/A )	47.90	7.7	NA
9SMHUGEP8X	306	31.80 ( N/A )	18.20 ( N/A )	50.00	7.6	NA
RSS22ZQ00Y	307	20.40 ( N/A )	21.60 ( N/A )	42.00	7.9	NA
M7ORC7S048	308	21.20 ( N/A )	33.90 ( N/A )	55.10	7.3	NA
1O6G43L1JL	309	32.90 ( N/A )	14.30 ( N/A )	47.20	7.7	NA
0PS4EW5KBJ	310	32.30 ( N/A )	13.00 ( N/A )	45.30	7.8	NA
DB9O6BD5EX	311	16.20 ( N/A )	48.00 ( N/A )	64.20	6.8	NA
YNU96CVL79	312	47.40 ( N/A )	9.70 ( N/A )	57.10	7.2	NA
NYRP86OUMQ	313	45.00 ( N/A )	10.20 ( N/A )	55.20	7.3	NA
BHZV4ZPRJ2	314	40.50 ( N/A )	9.50 ( N/A )	50.00	7.5	NA
1XNIEEQHJE	4	9.40 ( N/A )	48.20 ( N/A )	57.60	7.1	NA
ZQWVXM4T8C	401	26.90 ( N/A )	20.00 ( N/A )	46.90	7.7	NA
BTNB6PUUQA	402	6.40 ( N/A )	8.70 ( N/A )	15.10	9.4	NA
XTSYVQY9FG	403	25.80 ( N/A )	11.50 ( N/A )	37.30	8.2	NA
XDBEK6B51V	404	10.80 ( N/A )	34.20 ( N/A )	45.00	7.8	NA
B5WKOS4XYP	405	27.00 ( N/A )	21.30 ( N/A )	48.30	7.6	NA
F4BIFG789H	406	32.30 ( N/A )	18.20 ( N/A )	50.50	7.5	NA
Y5N1O7RI19	407	20.80 ( N/A )	21.30 ( N/A )	42.10	7.9	NA
NY24927IKD	408	21.90 ( N/A )	33.90 ( N/A )	55.80	7.2	NA
VALZB2C39D	409	33.60 ( N/A )	14.10 ( N/A )	47.70	7.7	NA
8D5U7FR45Q	410	32.90 ( N/A )	12.70 ( N/A )	45.60	7.8	NA
AW6ZCQBGIN	411	16.60 ( N/A )	46.40 ( N/A )	63.00	6.8	NA
JZX5VYTX0V	412	48.00 ( N/A )	9.60 ( N/A )	57.60	7.1	NA
5YIXAJ3I73	413	45.60 ( N/A )	10.40 ( N/A )	56.00	7.2	NA
AM8WQNQOP5	414	41.00 ( N/A )	9.50 ( N/A )	50.50	7.5	NA
27XLSPRTMV	5	19.90 ( N/A )	21.00 ( N/A )	40.90	8	NA
33JYHR9DH1	501	27.30 ( N/A )	19.80 ( N/A )	47.10	7.7	NA
U47477WFUY	502	6.70 ( N/A )	8.80 ( N/A )	15.50	9.4	NA
6VHLZY38OW	503	26.30 ( N/A )	11.50 ( N/A )	37.80	8.2	NA
H1P794TVHU	504	11.10 ( N/A )	33.40 ( N/A )	44.50	7.8	NA



## Summary of all dwellings

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GJXADZAFH7	505	27.40 ( N/A )	20.90 ( N/A )	48.30	7.6	NA
M9CF4IV89T	506	32.80 ( N/A )	17.60 ( N/A )	50.40	7.5	NA
YBYVU3PA4D	507	21.00 ( N/A )	20.90 ( N/A )	41.90	7.9	NA
NB79RX7HI9	508	22.40 ( N/A )	33.10 ( N/A )	55.50	7.3	NA
XX0RJHZKC1	509	34.10 ( N/A )	14.10 ( N/A )	48.20	7.6	NA
IVWX6FUBPK	510	33.40 ( N/A )	12.60 ( N/A )	46.00	7.7	NA
J9LDTLBDYG	511	17.00 ( N/A )	46.60 ( N/A )	63.60	6.8	NA
KO095AKHMM	512	48.50 ( N/A )	9.30 ( N/A )	57.80	7.1	NA
DF8D42PKCL	513	46.10 ( N/A )	10.20 ( N/A )	56.30	7.2	NA
D5170YMW87	514	41.40 ( N/A )	9.50 ( N/A )	50.90	7.5	NA
6IO5WRD5DZ	6	32.50 ( N/A )	22.40 ( N/A )	54.90	7.3	NA
GWW5R45X16	601	27.40 ( N/A )	19.70 ( N/A )	47.10	7.7	NA
5NZCGEBIJ1	602	6.90 ( N/A )	8.50 ( N/A )	15.40	9.4	NA
60ANDOW2JH	603	26.60 ( N/A )	11.40 ( N/A )	38.00	8.2	NA
YYIOGRTCVA	604	11.30 ( N/A )	32.50 ( N/A )	43.80	7.9	NA
62SGQZGY1V	605	27.70 ( N/A )	20.70 ( N/A )	48.40	7.6	NA
XENHBPVI1D	606	33.10 ( N/A )	17.20 ( N/A )	50.30	7.5	NA
ICNUHHEL6Y	607	20.80 ( N/A )	20.00 ( N/A )	40.80	8	NA
V8WI4DI46O	608	22.70 ( N/A )	33.10 ( N/A )	55.80	7.2	NA
I7AXUUUKBM0	609	34.40 ( N/A )	13.70 ( N/A )	48.10	7.6	NA
6KKR23O88I	610	33.70 ( N/A )	12.70 ( N/A )	46.40	7.7	NA
H0MN5KC0AX	611	17.20 ( N/A )	46.50 ( N/A )	63.70	6.8	NA
6D9F1LXEQA	612	48.80 ( N/A )	9.50 ( N/A )	58.30	7.1	NA
ZJ6Y3NF7X5	613	46.40 ( N/A )	10.10 ( N/A )	56.50	7.2	NA
CFYOTG87WR	614	39.90 ( N/A )	10.40 ( N/A )	50.30	7.5	NA
QZCO9DCGRE	7	19.70 ( N/A )	28.30 ( N/A )	48.00	7.7	NA
N0S8IBLVLL	701	27.80 ( N/A )	19.40 ( N/A )	47.20	7.7	NA
SSV850RMGV	702	7.20 ( N/A )	8.40 ( N/A )	15.60	9.4	NA
MKNEMWV3ZV	703	27.10 ( N/A )	11.30 ( N/A )	38.40	8.2	NA
DLA0LJ3ZDG	704	11.60 ( N/A )	31.70 ( N/A )	43.30	7.9	NA
VHMI9WTDJ5	705	28.20 ( N/A )	20.20 ( N/A )	48.40	7.6	NA
JCNAIDNOVW	706	33.60 ( N/A )	17.10 ( N/A )	50.70	7.5	NA
QS60IHS4XV	707	21.80 ( N/A )	20.90 ( N/A )	42.70	7.9	NA
61IAAE7FF0	708	23.20 ( N/A )	32.50 ( N/A )	55.70	7.2	NA
CRT4LA89RI	709	34.80 ( N/A )	13.50 ( N/A )	48.30	7.6	NA
6PDRZCLV92	710	34.20 ( N/A )	12.70 ( N/A )	46.90	7.7	NA



## Summary of all dwellings

Certificate number and link	Unit number	Heating load (load limit) [MJ/m <sup>2</sup> /p.a.]	Cooling load (load limit) [MJ/m <sup>2</sup> /p.a.]	Total load [MJ/m <sup>2</sup> /p.a.]	Star rating	Whole of Home Rating
DZQY8S4M9E	711	17.60 ( N/A )	46.10 ( N/A )	63.70	6.8	NA
FIJ5T98BPI	712	49.30 ( N/A )	9.50 ( N/A )	58.80	7.1	NA
ISMPZQX0L7	713	46.80 ( N/A )	9.80 ( N/A )	56.60	7.2	NA
3MFMWNA553	714	40.30 ( N/A )	10.40 ( N/A )	50.70	7.5	NA
GV9NCXGI70	715	25.20 ( N/A )	37.20 ( N/A )	62.40	6.9	NA
0MV61O1N33	8	22.70 ( N/A )	41.10 ( N/A )	63.80	6.8	NA
EJF1TVMA9R	801	28.00 ( N/A )	19.60 ( N/A )	47.60	7.7	NA
4DBCK2C6IG	802	7.40 ( N/A )	8.20 ( N/A )	15.60	9.4	NA
8CGWBXS9MB	803	27.50 ( N/A )	11.10 ( N/A )	38.60	8.2	NA
KP3U3TGO3A	804	12.00 ( N/A )	31.70 ( N/A )	43.70	7.9	NA
VJ911BDTZ6	805	36.60 ( N/A )	28.00 ( N/A )	64.60	6.8	NA
CMY7HOKQI1	806	35.40 ( N/A )	17.40 ( N/A )	52.80	7.4	NA
WXCHF8F2X8	807	38.90 ( N/A )	30.70 ( N/A )	69.60	6.5	NA
QXZ77YM8GU	808	32.20 ( N/A )	41.40 ( N/A )	73.60	6.3	NA
3DZLY7G1W3	809	35.00 ( N/A )	20.70 ( N/A )	55.70	7.2	NA
5K513SQVSG	810	36.20 ( N/A )	14.70 ( N/A )	50.90	7.5	NA
8IXQL88FJQ	811	19.20 ( N/A )	46.00 ( N/A )	65.20	6.7	NA
WHWDE95VOS	812	51.90 ( N/A )	9.70 ( N/A )	61.60	6.9	NA
3YPA6F17EP	813	47.10 ( N/A )	9.70 ( N/A )	56.80	7.2	NA
I0QAWUQIAZ	814	40.50 ( N/A )	10.30 ( N/A )	50.80	7.5	NA
8BRFHYY2W4	815	27.00 ( N/A )	37.40 ( N/A )	64.40	6.8	NA
TDTUQTJSVX	9	27.50 ( N/A )	19.10 ( N/A )	46.60	7.7	NA
W5HAMJ2XTF	901	37.70 ( N/A )	19.50 ( N/A )	57.20	7.2	NA
HBB4I50WQU	902	8.20 ( N/A )	7.30 ( N/A )	15.50	9.4	NA
SWUZT2HJ2I	903	27.90 ( N/A )	12.50 ( N/A )	40.40	8	NA
R8KJ3MTQXM	904	60.40 ( N/A )	11.50 ( N/A )	71.90	6.4	NA
13Z4R7AX7L	905	54.80 ( N/A )	11.60 ( N/A )	66.40	6.7	NA
7BMCL9KRRU	906	43.20 ( N/A )	11.10 ( N/A )	54.30	7.3	NA
FFCEV1OUWV	907	33.50 ( N/A )	39.40 ( N/A )	72.90	6.3	NA



## Explanatory notes

### About this report

The thermal performance star rating in this Certificate is the average rating of all NCC Class 2 dwellings in an apartment block. The Whole of Home performance rating in this Certificate is the lowest rating for the apartment block. Individual unit ratings are listed in the 'Summary of all dwellings' section of this Certificate. (accessible via link).

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the energy loads and energy value\*. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy production and storage to estimate the homes energy value\*.

For more details about an individual dwelling's assessment, refer to the individual dwelling's NatHERS Certificate (accessible via link)

### Accredited Assessors

For high quality NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Licensed assessors in the Australian Capital Territory (ACT) can produce assessments for regulatory purposes only, using endorsed software, as listed on the ACT licensing register

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

### Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in certificates is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy use, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor



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# LIVERPOOL CIVIC PLACE - PHASE B

52 SCOTT STREET LIVERPOOL, NSW  
BUILT DEVELOPMENT GROUP

SSDA SUBMISSION  
20230059: DRAWING LIST

## DRAWING LIST - SSDA

SHEET No.	SHEET NAME
SD00 SERIES - INTRODUCTORY	
AR-DRW- 01_001	COVER PAGE
AR-DRW- 00_200	BASIX COMMITMENTS
SD01 SERIES - LOCATION PLANS	
AR-DRW- 01_001	LOCATION PLAN
SD02 SERIES - EXISTING SITE PLAN	
AR-DRW- 02_001	EXISTING SITE ANALYSIS PLAN
SD04 SERIES - PROPOSED SITE PLAN	
AR-DRW- 04_001	PROPOSED SITE PLAN
SD06 SERIES - AREA PLANS	
AR-DRW- 06_001	COMBINED GFA SCHEDULE - SHEET 1
SD07 SERIES - DEVELOPMENT SUMMARY	
AR-DRW- 07_001	DEVELOPMENT SUMMARY
SD10 SERIES - GENERAL ARRANGEMENT PLANS	
AR-DRW- 10_006	FLOOR PLAN - BASEMENT 3
AR-DRW- 10_007	FLOOR PLAN - BASEMENT 2
AR-DRW- 10_008	FLOOR PLAN - BASEMENT 1
AR-DRW- 10_099	FLOOR PLAN - LOWER GROUND
AR-DRW- 10_100	FLOOR PLAN - UPPER GROUND
AR-DRW- 10_101	FLOOR PLAN - LEVEL 1-5
AR-DRW- 10_106	FLOOR PLAN - LEVEL 6-8
AR-DRW- 10_109	FLOOR PLAN - LEVEL 9
AR-DRW- 10_110	FLOOR PLAN - LEVEL 10-26
AR-DRW- 10_127	FLOOR PLAN - LEVEL 27
AR-DRW- 10_128	FLOOR PLAN - ROOF
SD20 SERIES - ELEVATIONS	
AR-DRW- 20_001	NORTH ELEVATION
AR-DRW- 20_002	EAST ELEVATION
AR-DRW- 20_003	SOUTH ELEVATION
AR-DRW- 20_004	WEST ELEVATION
SD30 SERIES - SECTIONS	
AR-DRW- 30_001	OVERALL SECTIONS - SHEET 1

## DRAWING LIST - SSDA

SHEET No.	SHEET NAME
SD61 SERIES - ADAPTABLE APARTMENTS	OVERALL SECTIONS - SHEET 2
AR-DRW- 30_001	ADAPTABLE APARTMENTS - SHEET 1
AR-DRW- 61_100	ADAPTABLE APARTMENTS - SHEET 2
AR-DRW- 61_101	ADAPTABLE UNIT SCHEDULE
AR-DRW- 61_200	LIVABLE UNIT SCHEDULE
AR-DRW- 61_201	
SD80 SERIES - COMPLIANCE	
AR-DRW- 80_001	EXISTING SHADOW PLANS - WINTER SOLSTICE
AR-DRW- 80_005	PROPOSED SHADOW PLANS - WINTER SOLSTICE
AR-DRW- 80_011	EXISTING SHADOW PLANS - SUMMER SOLSTICE
AR-DRW- 80_015	PROPOSED SHADOW PLANS - SUMMER SOLSTICE
AR-DRW- 80_021	EXISTING SHADOW PLANS - SPRING EQUINOX
AR-DRW- 80_025	PROPOSED SHADOW PLANS - SPRING EQUINOX
AR-DRW- 80_031	EXISTING SHADOW PLANS - AUTUMN EQUINOX
AR-DRW- 80_035	PROPOSED SHADOW PLANS - AUTUMN EQUINOX
AR-DRW- 80_100	SUN EYE VIEW DIAGRAMS - EQUINOX
AR-DRW- 80_101	SUN EYE VIEW DIAGRAMS - WINTER
SD081 SERIES - ADD ASSESSMENT - SOLAR	
AR-DRW- 81_001	ADD SCHEDULES - WINTER SOLSTICE
SD082 SERIES - ADD ASSESSMENT - CROSS VENTILATION	CROSS VENTILATION
AR-DRW- 82_001	CROSS VENTILATION SCHEDULES
SD091 SERIES - FINISHES	
AR-DRW- 90_001	EXTERNAL FINISHES AND MATERIALS
SD092 SERIES - NOTIFICATION PLAN	
AR-DRW- 92_001	NOTIFICATION PLANS
	TOTAL SHEET NUMBER: 42

## BASIX ENERGY

The following minimum standards will be required to comply with the BASIX Energy Targets for the project.

Design Element	Compliance Criteria
Central hot water system	Electric Heat Pump – Air sourced Minimum EER ratings - 3.5 < COP <= 4.0 Internal & External Piping - R0.6 (~25 mm)
Cooking	Electric cooktop & electric oven
Mechanical heating and cooling	Ducted air-conditioning (1-Phase) for all units (Living and Bedroom). Minimum EER ratings - Cooling 3.0-3.5, Heating 3.5-4.0.
Apartment ventilation	Bathroom, laundry, and kitchen: individual fan, ducted to façade or roof – Interlocked to Light
Common area ventilation	<b>Ventilation (supply and exhaust):</b> Carpark Area (with carbon monoxide monitor + VSD fan), Bike Storage – Carpark (continuous), PCU – LG, GA Room, Fire Pump – B1 (Thermostatically controlled) <b>Exhaust only + none i.e., continuous:</b> Fan Room – Carpark, Waste Rooms, Waste Rooms – LG, Bulk Waste – Basement. <b>Ventilation supply only + Thermostatically controlled:</b> Subsoil pump – B3, Rainwater Plant B1, PB Pump – B1, Substation - UG <b>No mechanical ventilation:</b> FCR – LG, SP Fan – UG + L27, Hot water plant L27, SPR Fan – L27, Fire stairs, Retail storage – LG, Storage – L9, Hallways <b>Air conditioning system:</b> DAS – B3, Security – B1, MSB – LG, Communal rooms (time clock or BMS controlled), Lobby/Lounge – LG, NBN/COMMS – B2 (continuous), Office – LG (time clock or BMS controlled), Cinema – LG (time clock or BMS controlled), Workspace – LG (time clock or BMS controlled)
Apartment artificial lighting	LED throughout with dedicated fittings
Common area artificial lighting	<b>LED connected to lift call button:</b> Lifts. <b>LED controlled by time clock and motion sensors:</b> Carpark Area, Bike Storage – Carpark, Firestairs, Cinema – LG, Workplace, LG, Lobby/Lounge – LG, Hallways <b>LEDs controlled by Motion Sensors:</b> Fan Room – Carpark, Waste Rooms, Waste Rooms – LG, Bulky Waste Basement, Communal Rooms, DAS – B3, Subsoil pump – B3, Rainwater Plant – B1, NBN/COMMS – B2, PCU – LG, Fire pump – B1, Security – B1, PB Pump – B1, GA Room, FCR – LG, MSB – LG, Substation – UG, SP Fan – UG + L27, Hot water Plant – L27, SPR Fan – L27, Retail Storage – LG, Storage – L9 <b>LEDs with motion sensor:</b> Office – LG
Appliances in Apartments (minimum Energy Star rating)	Dishwashers: Minimum 4 stars Clothes Dyer: Minimum 2.5 stars
Photovoltaic Array	45 kW
Vertical transport	All lifts with gearless traction and VVVF motor Lift Load Capacity: > 1500 kg
	Will a Building Management System (BMS) be installed? – Yes Will active Power Factor Correction (PFC) be installed? – No Will a common area clothes drying line be installed? – No

## BASIX WATER

The following minimum standards are required to comply with the BASIX Water Targets for the project.

Design Element	Compliance Criteria
Central systems & common areas	Toilets: Minimum 4 Star WELS Rated All Tops: Minimum 5 Star WELS Rated
Dwelling Fixtures	Showers: Minimum 3 Star (>6 but <= 7.5 L/min) WELS Rated Toilets: Minimum 4 Star WELS Rated All Tops: Minimum 6 Star WELS Rated
Dwelling Fittings/Appliances	Washing Machine: not specified Dishwasher: Minimum 2.5 star
Fire Sprinkler Water Test	Fire sprinkler test water is contained in a closed system
Alternative Water	Minimum 10 KL Rainwater tank to harvest roof area serving landscape irrigation
Design Element	Compliance Criteria

## BASIX THERMAL PERFORMANCE

The following minimum standards are required to comply with the BASIX Thermal Comfort requirements for the project.

Design Element	Compliance Criteria
Glazed Doors / Windows	Typically, the following Windows are used throughout. Units 1807, 1811, 1907, 1911, 2007, 2011, 2107, 2111, 2207, 2306, 2307, 2309, 2406, 2407, 2409, 2506, 2507, 2509, 2607 & 2609 require the following glazing specification: <b>Awning, Fixed and sliding windows</b> U-Value = 4.1; SHGC = 0.47 (+/- 5%) Units 02311, 2411, 2511 & 2606 require the following glazing specification: <b>Fixed and sliding windows</b> U-Value = 3.1; SHGC = 0.49 (+/- 5%) <b>Awning window</b> U-Value = 4.1; SHGC = 0.47 (+/- 5%) Units 02311, 2411, 2511 & 2606 require the following glazing specification: <b>Fixed and sliding windows</b> U-Value = 2.30; SHGC = 0.26 (+/- 5%) <b>Awning window</b> U-Value = 4.1; SHGC = 0.47 (+/- 5%) Units 0011 & 0111 require the following glazing specification: <b>Awning, Fixed and sliding windows</b> U-Value = 4.9; SHGC = 0.33 (+/- 5%) All remaining apartments require the following glazing specification: <b>Fixed and sliding windows</b> U-Value = 4.6; SHGC = 0.47 (+/- 5%) <b>Awning window</b> U-Value = 5.4; SHGC = 0.49 (+/- 5%) Total System U-Value – Refer to Appendix A: Glazing Spec. Total System SHGC – Refer to Appendix A: Glazing Spec. Operability – max available while meeting window safety device requirements defined in the BCA. Note - all glazing systems are whole of system, including glazing and frame systems.
Skylights	Not Applicable
External Solid Walls	Added R2.5 bulk insulation for all apartment external walls. Minimum R0.2 thermal break to all metal stud frame for thermal bridging control. Medium or light colour
Walls to Internal Corridors or Non-Conditioned Zones:	Added R1.8 bulk insulation for all internal walls between apartment unit and non-conditioned enclosed internal zones. Minimum R0.2 thermal break to all metal stud frame for thermal bridging control.
Exposed Roofs/Balconies (Over conditioned spaces)	Added R4.0 soffit slab insulation to all apartment concrete slab roofs and ceiling below balcony. Added R2.5 soffit slab insulation to all apartment ceilings below unconditioned spaces. Medium or light colour
Suspended Floor Slabs	Added R2.5 soffit slab insulation to underside of suspended concrete slabs. [Enclosed floor levels between conditioned and internal non-conditioned spaces and open to outside]
Floors Covering	Carpet in Bedrooms Timber in Living/Dining rooms Tile in Kitchen and Tile in Bathrooms.

**Certificate No. # 176VX2JMFZ**

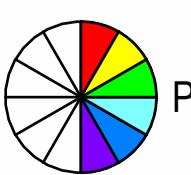
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Accreditation No. DMN/20/1972  
Property Address 52 Scott Street,  
Liverpool, NSW, 2170



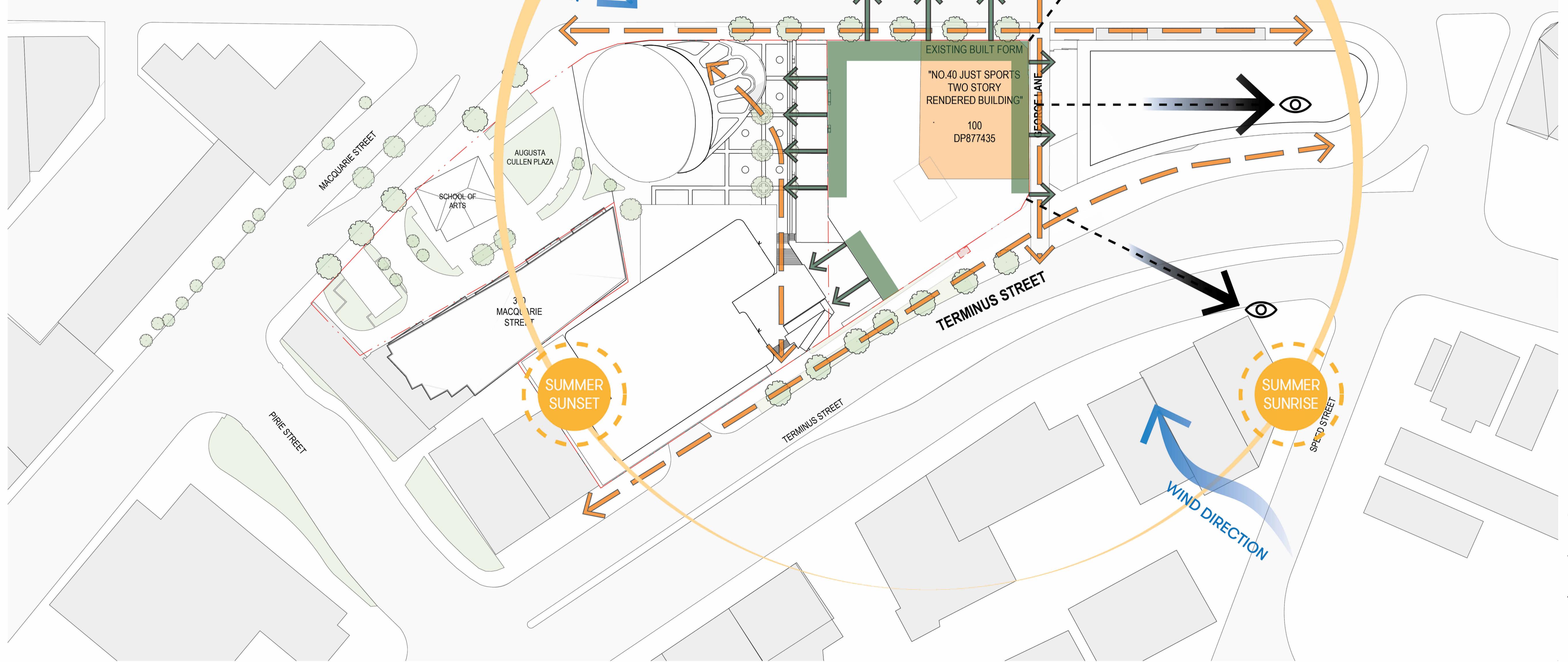
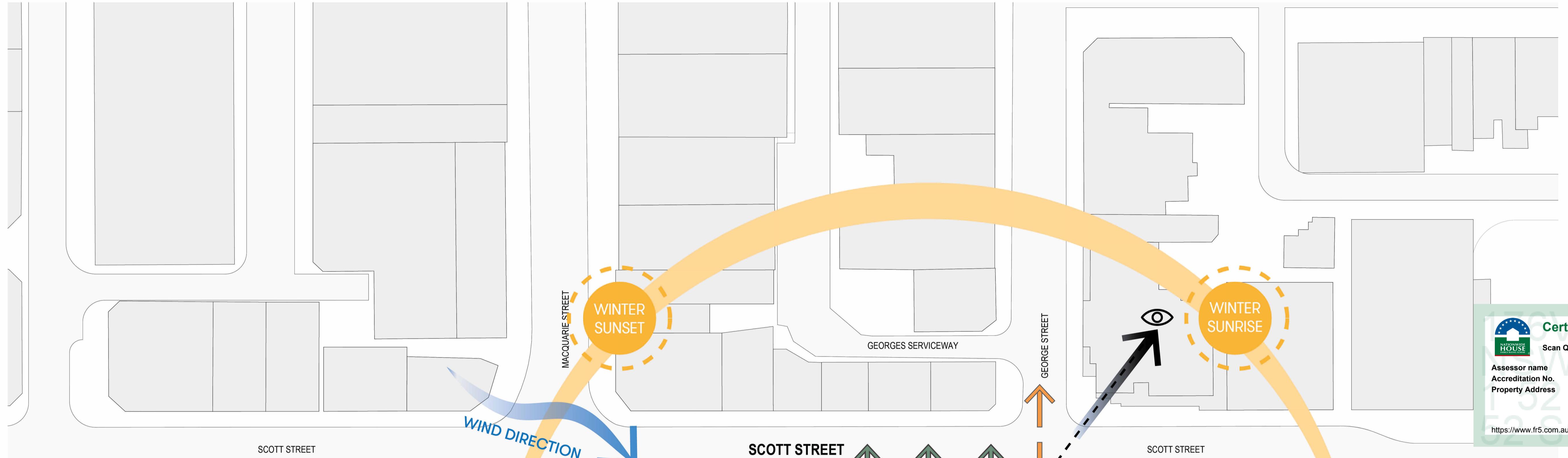
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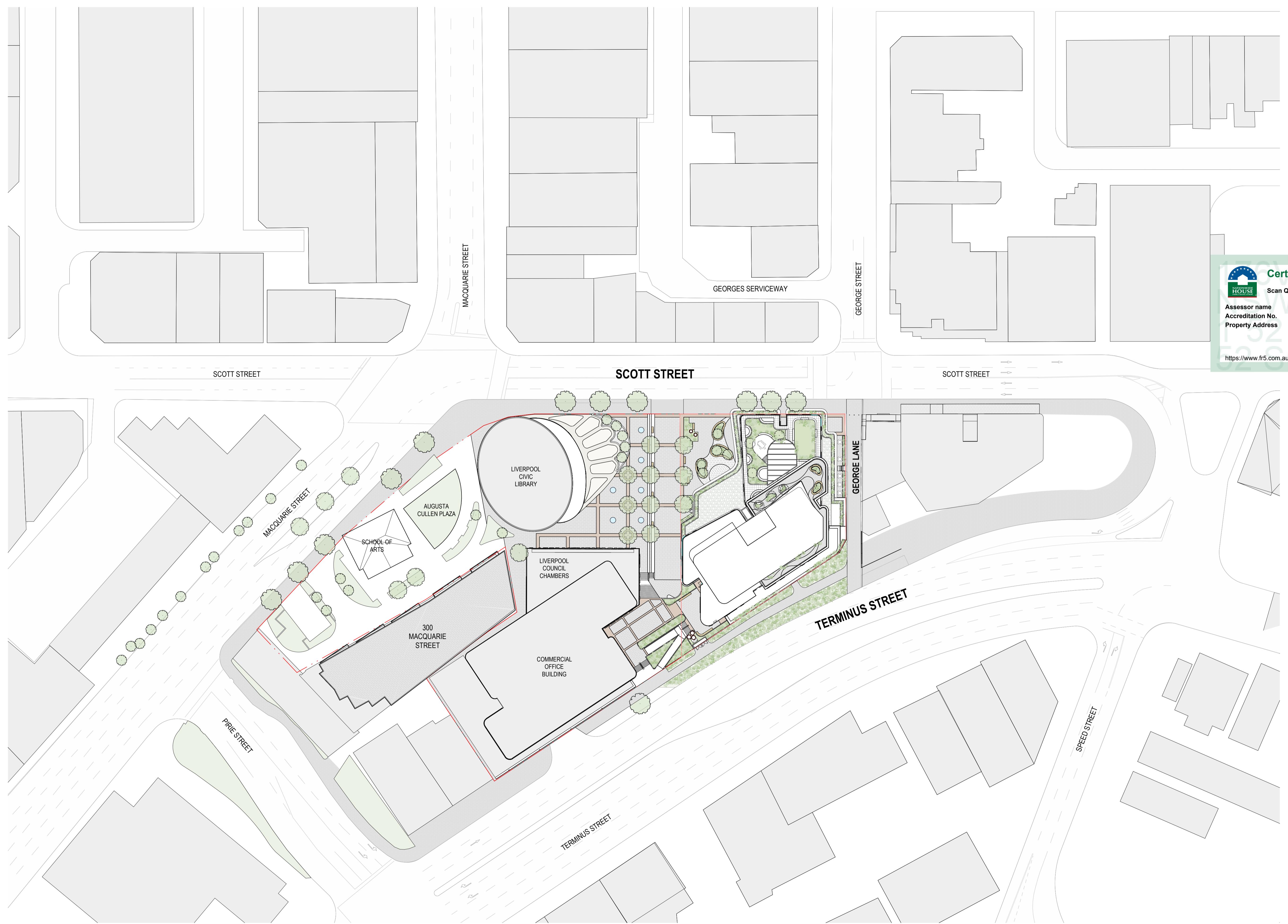
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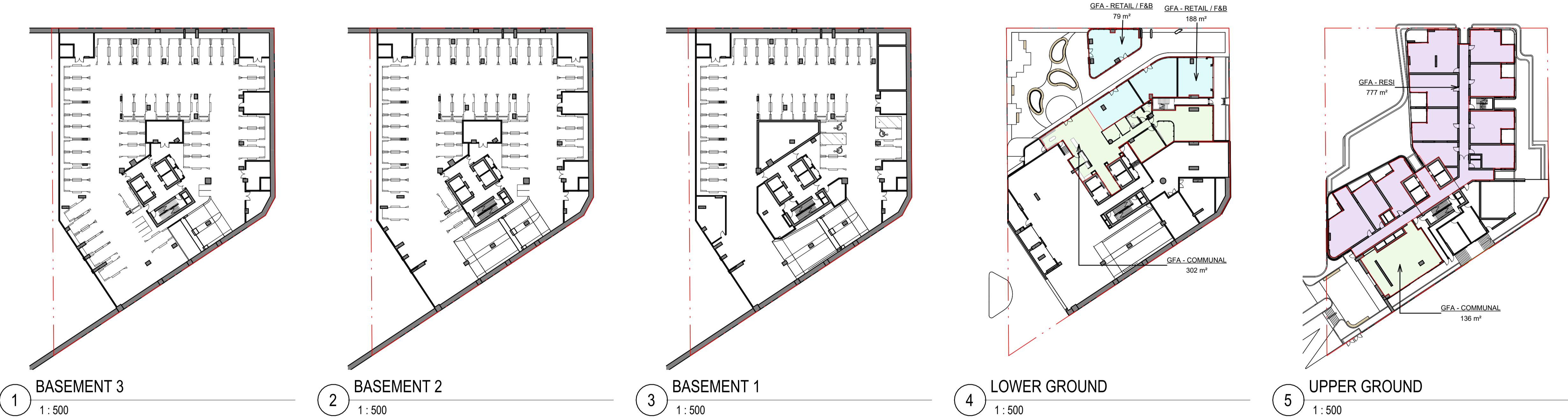
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- ↔ PEDESTRIAN CONNECTION
- ACTIVE FRONTAGES

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GFA - OVERALL		
Level	Area	Comments
LOWER GROUND	188 m <sup>2</sup>	RETAIL / F&B
LOWER GROUND	79 m <sup>2</sup>	RETAIL / F&B
LOWER GROUND	302 m <sup>2</sup>	COMMUNAL
UPPER GROUND	777 m <sup>2</sup>	RESIDENTIAL
UPPER GROUND	136 m <sup>2</sup>	COMMUNAL
LEVEL 1	1064 m <sup>2</sup>	RESIDENTIAL
LEVEL 2	1064 m <sup>2</sup>	RESIDENTIAL
LEVEL 3	1064 m <sup>2</sup>	RESIDENTIAL
LEVEL 4	1064 m <sup>2</sup>	RESIDENTIAL
LEVEL 5	1064 m <sup>2</sup>	RESIDENTIAL
LEVEL 6	1100 m <sup>2</sup>	RESIDENTIAL
LEVEL 7	1100 m <sup>2</sup>	RESIDENTIAL
LEVEL 8	1100 m <sup>2</sup>	RESIDENTIAL
LEVEL 9	157 m <sup>2</sup>	COMMUNAL
LEVEL 10	576 m <sup>2</sup>	RESIDENTIAL
LEVEL 11	801 m <sup>2</sup>	RESIDENTIAL
LEVEL 12	801 m <sup>2</sup>	RESIDENTIAL
LEVEL 13	801 m <sup>2</sup>	RESIDENTIAL
LEVEL 14	801 m <sup>2</sup>	RESIDENTIAL
LEVEL 15	801 m <sup>2</sup>	RESIDENTIAL
LEVEL 16	801 m <sup>2</sup>	RESIDENTIAL
LEVEL 17	801 m <sup>2</sup>	RESIDENTIAL
LEVEL 18	801 m <sup>2</sup>	RESIDENTIAL
LEVEL 19	801 m <sup>2</sup>	RESIDENTIAL
LEVEL 20	801 m <sup>2</sup>	RESIDENTIAL
LEVEL 21	801 m <sup>2</sup>	RESIDENTIAL
LEVEL 22	801 m <sup>2</sup>	RESIDENTIAL
LEVEL 23	801 m <sup>2</sup>	RESIDENTIAL
LEVEL 24	801 m <sup>2</sup>	RESIDENTIAL
LEVEL 25	801 m <sup>2</sup>	RESIDENTIAL
LEVEL 26	801 m <sup>2</sup>	RESIDENTIAL
ROOF	270 m <sup>2</sup>	COMMUNAL
GFA - RESI	24717 m <sup>2</sup>	



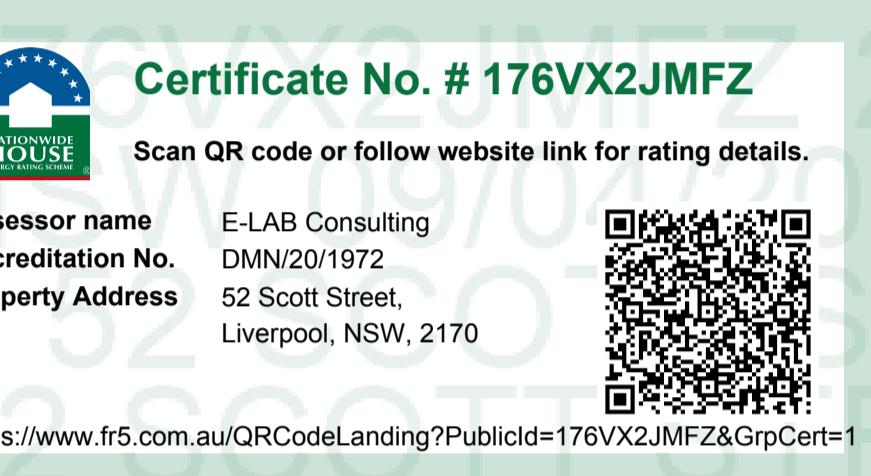
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# APARTMENT SCHEDULES

Apartment Type Schedule		
Level	Type	Count
UPPER GROUND	1B	6
UPPER GROUND	2B	2
UPPER GROUND	ST	3
		11
LEVEL 1	1B	6
LEVEL 1	2B	4
LEVEL 1	3B	1
LEVEL 1	ST	3
		14
LEVEL 2	1B	6
LEVEL 2	2B	4
LEVEL 2	3B	1
LEVEL 2	ST	3
		14
LEVEL 3	1B	6
LEVEL 3	2B	4
LEVEL 3	3B	1
LEVEL 3	ST	3
		14
LEVEL 4	1B	6
LEVEL 4	2B	4
LEVEL 4	3B	1
LEVEL 4	ST	3
		14
LEVEL 5	1B	6
LEVEL 5	2B	4
LEVEL 5	3B	1
LEVEL 5	ST	3
		14
LEVEL 6	1B	6
LEVEL 6	2B	4
LEVEL 6	3B	1
LEVEL 6	ST	4
		15
LEVEL 7	1B	6
LEVEL 7	2B	4
LEVEL 7	3B	1
LEVEL 7	ST	4
		15
LEVEL 8	1B	6
LEVEL 8	2B	4
LEVEL 8	3B	1
LEVEL 8	ST	4
		15
LEVEL 9	1B	1
LEVEL 9	2B	3
LEVEL 9	3B	1
LEVEL 9	ST	2
		7
LEVEL 10	1B	5
LEVEL 10	2B	4
LEVEL 10	ST	2
		11
LEVEL 11	1B	5
LEVEL 11	2B	4
LEVEL 11	ST	2
		11
LEVEL 12	1B	5
LEVEL 12	2B	4
LEVEL 12	ST	2
		11
LEVEL 13	1B	5
LEVEL 13	2B	4
LEVEL 13	ST	2
		11
LEVEL 14	1B	5
LEVEL 14	2B	4
LEVEL 14	ST	2
		11

Apartment Type Schedule		
Level	Type	Count
LEVEL 15	1B	5
LEVEL 15	2B	4
LEVEL 15	ST	2
		11
LEVEL 16	1B	5
LEVEL 16	2B	4
LEVEL 16	ST	2
		11
LEVEL 17	1B	5
LEVEL 17	2B	4
LEVEL 17	ST	2
		11
LEVEL 18	1B	5
LEVEL 18	2B	4
LEVEL 18	ST	2
		11
LEVEL 19	1B	5
LEVEL 19	2B	4
LEVEL 19	ST	2
		11
LEVEL 20	1B	5
LEVEL 20	2B	4
LEVEL 20	ST	2
		11
LEVEL 21	1B	5
LEVEL 21	2B	4
LEVEL 21	ST	2
		11
LEVEL 22	1B	5
LEVEL 22	2B	4
LEVEL 22	ST	2
		11
LEVEL 23	1B	5
LEVEL 23	2B	4
LEVEL 23	ST	2
		11
LEVEL 24	1B	5
LEVEL 24	2B	4
LEVEL 24	ST	2
		11
LEVEL 25	1B	5
LEVEL 25	2B	4
LEVEL 25	ST	2
		11
LEVEL 26	1B	5
LEVEL 26	2B	4
LEVEL 26	ST	2
		11
LEVEL 27	1B	5
LEVEL 27	2B	4
LEVEL 27	ST	2
		11
LEVEL 28	1B	5
LEVEL 28	2B	4
LEVEL 28	ST	2
		11
LEVEL 29	1B	5
LEVEL 29	2B	4
LEVEL 29	ST	2
		11
LEVEL 30	1B	5
LEVEL 30	2B	4
LEVEL 30	ST	2
		11
LEVEL 31	1B	5
LEVEL 31	2B	4
LEVEL 31	ST	2
		11
LEVEL 32	1B	5
LEVEL 32	2B	4
LEVEL 32	ST	2
		11
LEVEL 33	1B	5
LEVEL 33	2B	4
LEVEL 33	ST	2
		11
LEVEL 34	1B	5
LEVEL 34	2B	4
LEVEL 34	ST	2
		11
LEVEL 35	1B	5
LEVEL 35	2B	4
LEVEL 35	ST	2
		11
LEVEL 36	1B	5
LEVEL 36	2B	4
LEVEL 36	ST	2
		11
LEVEL 37	1B	5
LEVEL 37	2B	4
LEVEL 37	ST	2
		11
LEVEL 38	1B	5
LEVEL 38	2B	4
LEVEL 38	ST	2
		11
LEVEL 39	1B	5
LEVEL 39	2B	4
LEVEL 39	ST	2
		11
LEVEL 40	1B	5
LEVEL 40	2B	4
LEVEL 40	ST	2
		11
LEVEL 41	1B	5
LEVEL 41	2B	4
LEVEL 41	ST	2
		11
LEVEL 42	1B	5
LEVEL 42	2B	4
LEVEL 42	ST	2
		11
LEVEL 43	1B	5
LEVEL 43	2B	4
LEVEL 43	ST	2
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LEVEL 44	1B	5
LEVEL 44	2B	4
LEVEL 44	ST	2
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LEVEL 45	1B	5
LEVEL 45	2B	4
LEVEL 45	ST	2
		11
LEVEL 46	1B	5
LEVEL 46	2B	4
LEVEL 46	ST	2
		11
LEVEL 47	1B	5
LEVEL 47	2B	4
LEVEL 47	ST	2
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LEVEL 48	1B	5
LEVEL 48	2B	4
LEVEL 48	ST	2
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LEVEL 49	1B	5
LEVEL 49	2B	4
LEVEL 49	ST	2
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LEVEL 50	1B	5
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LEVEL 51	1B	5
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LEVEL 52	1B	5
LEVEL 52	2B	4
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LEVEL 53	1B	5
LEVEL 53	2B	4
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LEVEL 64	1B	5
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LEVEL 64	ST	2
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LEVEL 65	1B	5
LEVEL 65	2B	4
LEVEL 65	ST	2
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LEVEL 66	1B	5
LEVEL 66	2B	4
LEVEL 66	ST	2
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LEVEL 67	1B	5
LEVEL 67	2B	4
LEVEL 67	ST	2
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LEVEL 68	1B	5
LEVEL 68	2B	4
LEVEL 68	ST	2
		11
LEVEL 69	1B	5
LEVEL 69	2B	4
LEVEL 69	ST	2
		11
LEVEL 70	1B	5
LEVEL 70	2B	4
LEVEL 70	ST	2
		11
LEVEL 71	1B	5
LEVEL 71	2B	4
LEVEL 71	ST	2
		11

[Status] FOR APPROVAL  
 [Nom. Architect] NICK BANDOUNAS /8499  
 [File] 20230059-AB-DA001-R24  
 [Print Date] 27/03/2024 4:43:19 PM  
 History  
 [Rev#] [Description] [Date] dd.mm.yyyy  
 A For Coordination 30.01.24  
 B ISSUED FOR SSDA 12.03.24



#### Car Parking Schedule

Level	Type	Count
BASEMENT 3	Small - 5000 x 2300	2
BASEMENT 3	Standard - 5400 x 2400	44
BASEMENT 2	Small - 5000 x 2300	1
BASEMENT 2	Standard - 5400 x 2400	41
BASEMENT 1	Accessible - 5400 x 2400	3
BASEMENT 1	Loading - 5400 x 2600	2
BASEMENT 1	Standard - 5400 x 2400	26

#### CAR PARKS BY TYPE

Type
Accessible - 5400 x 2400
3
Loading - 5400 x 2600
2
Small - 5000 x 2300
3
Standard - 5400 x 2400
111

Total Car Spaces: 119

AREA (INSIDE FACE OF SHORING WALL) : 2045m<sup>2</sup>

TOTAL B03 STORAGE AREA = ~137m<sup>2</sup>

PERCENTAGE = 7%



[Status] FOR APPROVAL  
 [Nom. Architect] NICK BANDOUNAS /8499  
 [File] 20230059-AB-DA001-R24  
 [Print Date] 27/03/2024 4:40:59 PM  
 History  
 [Rev#] [Description] [Date] dd.mm.yyyy  
 A For Coordination 30.01.24  
 B ISSUED FOR SSDA 12.03.24



#### Car Parking Schedule

Level	Type	Count
BASEMENT 3		
BASEMENT 3	Small - 5000 x 2300	2
BASEMENT 3	Standard - 5400 x 2400	44

BASEMENT 2		
BASEMENT 2	Small - 5000 x 2300	1
BASEMENT 2	Standard - 5400 x 2400	41

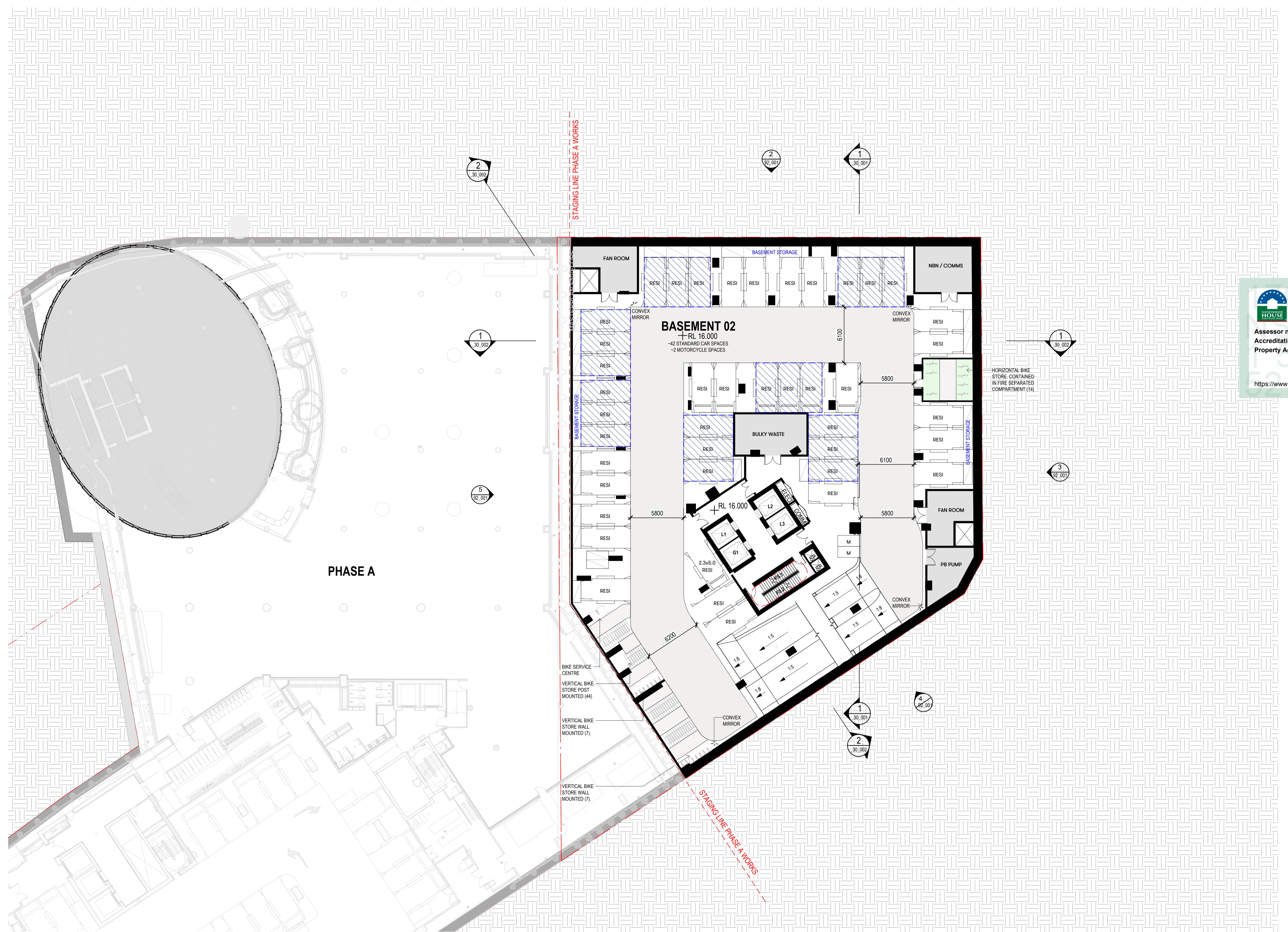
BASEMENT 1		
BASEMENT 1	Accessible - 5400 x 2400	3
BASEMENT 1	Loading - 5400 x 2600	2
BASEMENT 1	Standard - 5400 x 2400	26

119

#### CAR PARKS BY TYPE

Type
Accessible - 5400 x 2400
3
Loading - 5400 x 2600
2
Small - 5000 x 2300
3
Standard - 5400 x 2400
111
Total Car Spaces: 119

AREA (INSIDE FACE OF SHORING WALL) : 2045m<sup>2</sup>  
 TOTAL B02 STORAGE AREA = ~135m<sup>2</sup>  
 PERCENTAGE = 7%



[Status] FOR APPROVAL  
 [Nom. Architect] NICK BANDOUNAS /8499  
 [File] 20230059-AB-DA001-R24  
 [Print Date] 27/03/2024 4:39:02 PM  
 History  
 [Rev#] [Description] [Date] dd.mm.yyyy  
 A For Coordination 30.01.24  
 B ISSUED FOR SSDA 12.03.24



#### Car Parking Schedule

Level	Type	Count
-------	------	-------

BASEMENT 3		
BASEMENT 3	Small - 5000 x 2300	2
BASEMENT 3	Standard - 5400 x 2400	44

BASEMENT 2		
BASEMENT 2	Small - 5000 x 2300	1
BASEMENT 2	Standard - 5400 x 2400	41

BASEMENT 1		
BASEMENT 1	Accessible - 5400 x 2400	3
BASEMENT 1	Loading - 5400 x 2600	2
BASEMENT 1	Standard - 5400 x 2400	26

119

#### CARPADS BY TYPE

Type
------

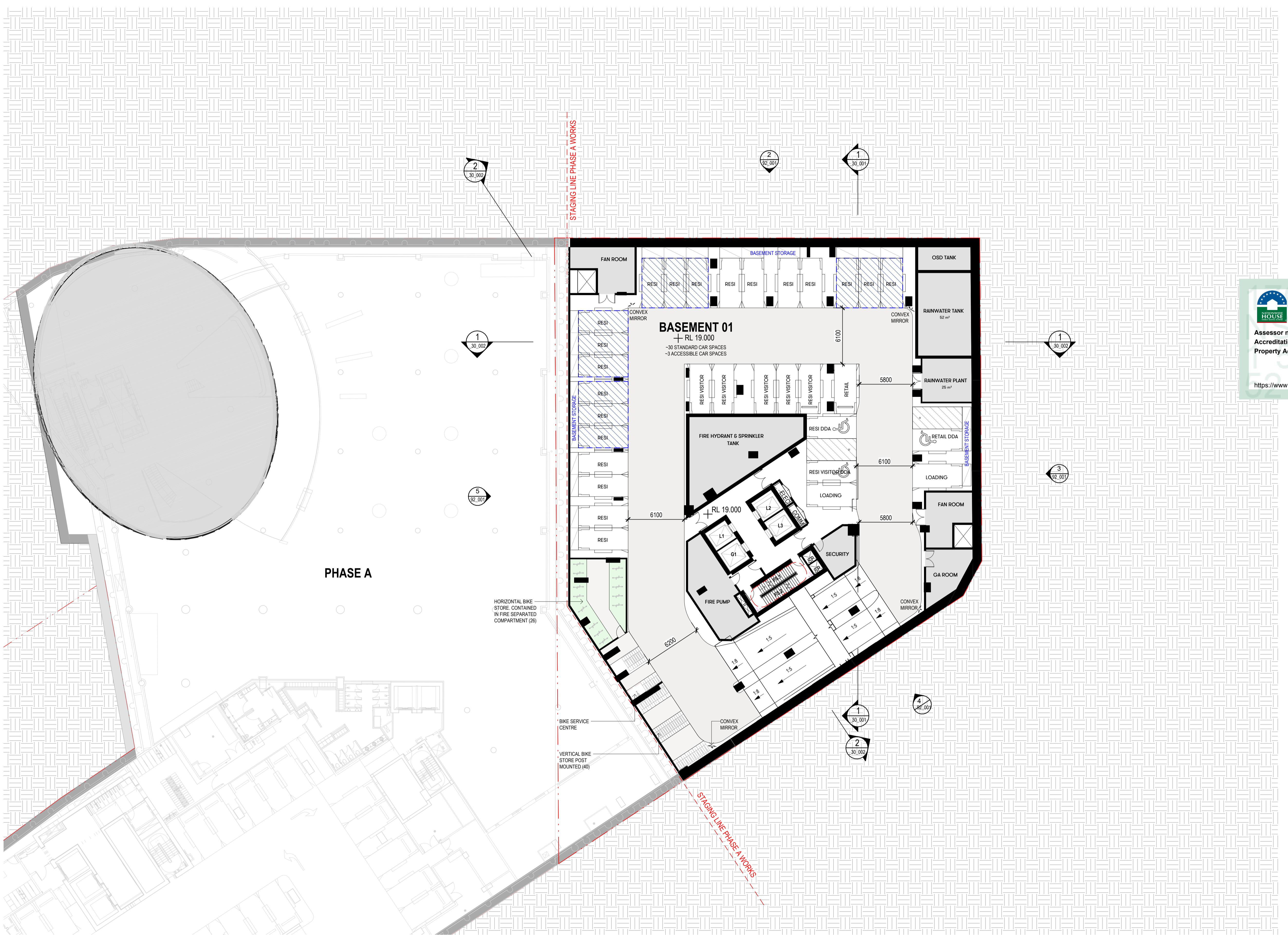
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3
Loading - 5400 x 2600
2
Small - 5000 x 2300
3
Standard - 5400 x 2400
111

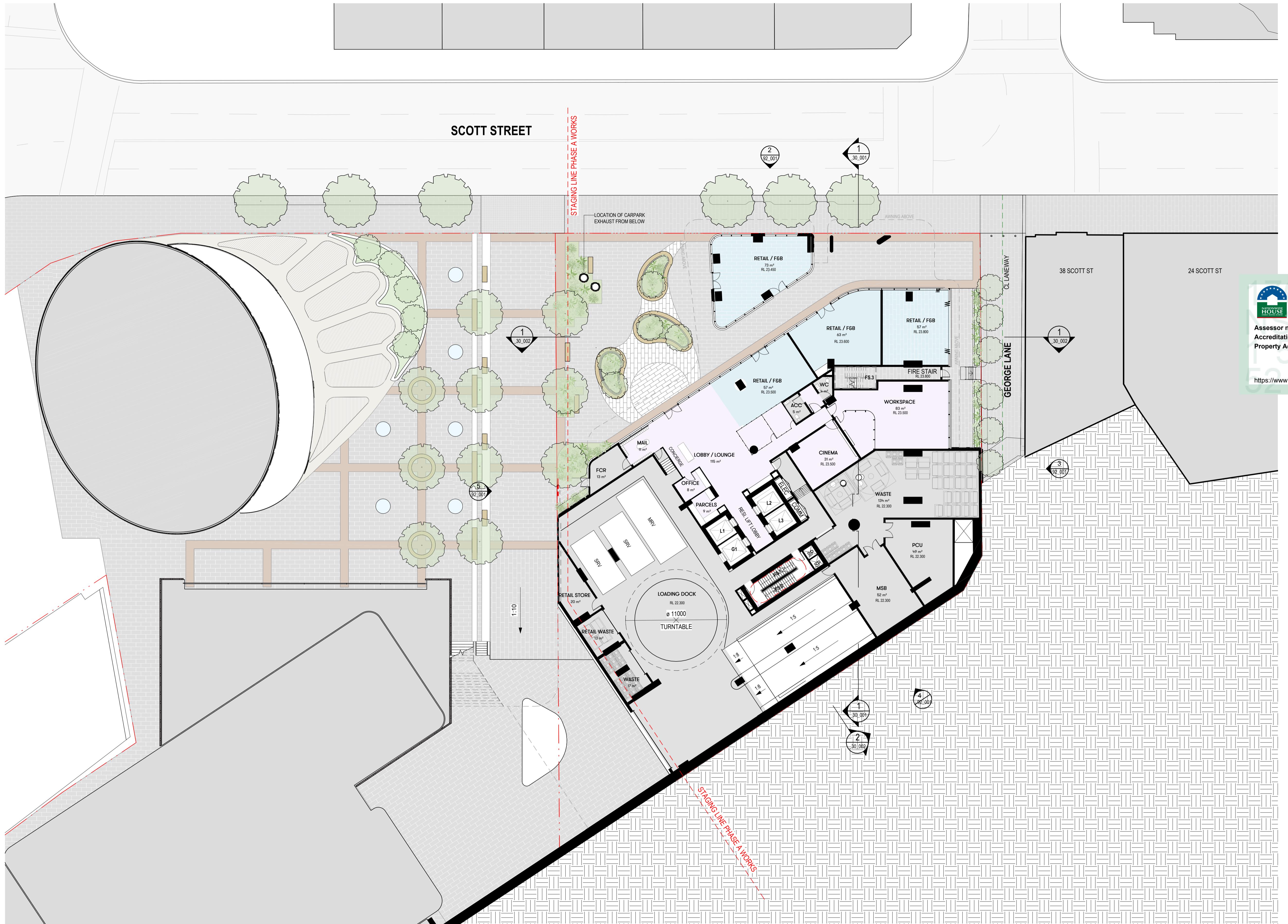
Total Car Spaces: 119

AREA (INSIDE FACE OF SHORING WALL) : 2045m<sup>2</sup>

TOTAL B01 STORAGE AREA = ~114m<sup>2</sup>

PERCENTAGE = 6%





s]	<b>FOR APPROVAL</b>
Architect]	NICK BANDOUNAS /8499
20230059-AB-DA001-R24	
Date]	27/03/2024 4:37:04 PM
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<hr/> <input type="checkbox"/> [Description] [Date] dd.mm.yy For Coordination 30.01.24 ISSUED FOR SSDA 12.03.24	

**Certificate No. # 176VX2JMFZ**

**Scan QR code or follow website link for rating details.**

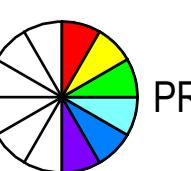
Name E-LAB Consulting  
Reg. No. DMN/20/1972

**Address** 52 Scott Street,  
Liverpool, NSW, 2170

[fr5.com.au/QRCodeLanding?PublicId=176VX2JMFZ&GrpCert=1](http://fr5.com.au/QRCodeLanding?PublicId=176VX2JMFZ&GrpCert=1)



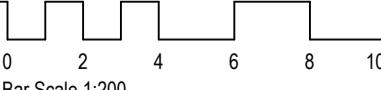
Level One, One Chifley Square Sydney NSW 2000 Australia  
www.scottcarver.com.au +61 2 9957 3988



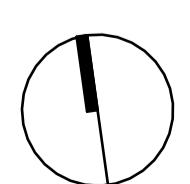
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[Project] LIVERPOOL CIVIC PLACE - PHASE B

[Client] BUILT DEVELOPMENT GROUP



[Scale] 1 : 200 @ A1



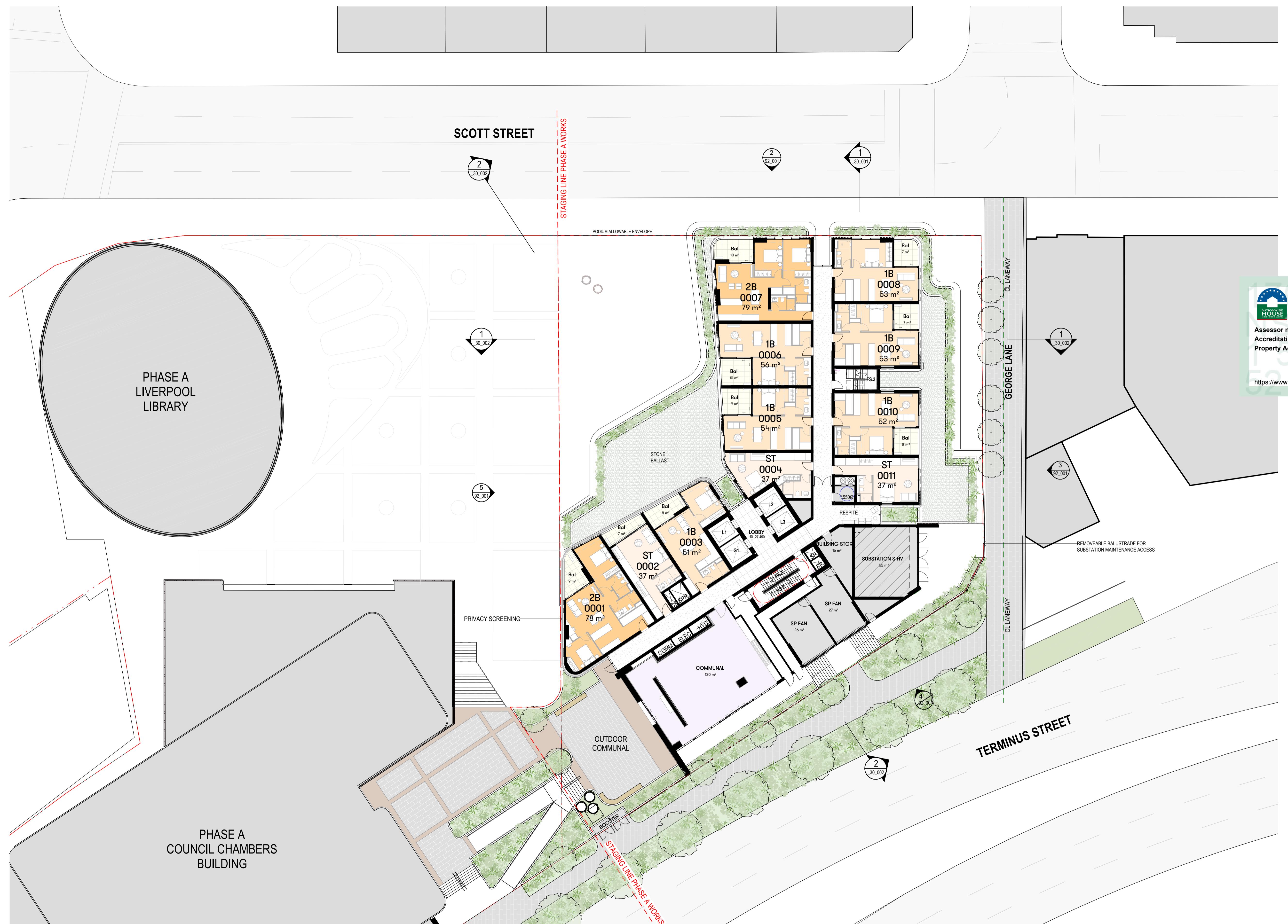
## FLOOR PLAN - LOWER GROUND

Ref] 20230059

[Reg No] AR-DRW-10\_099 [Rev] B

[Status] FOR APPROVAL  
 [Nom. Architect] NICK BANDOUNAS /8499  
 [File] 20230059-AB-DA001-R24  
 [Print Date] 27/03/2024 4:35:42 PM  
 History

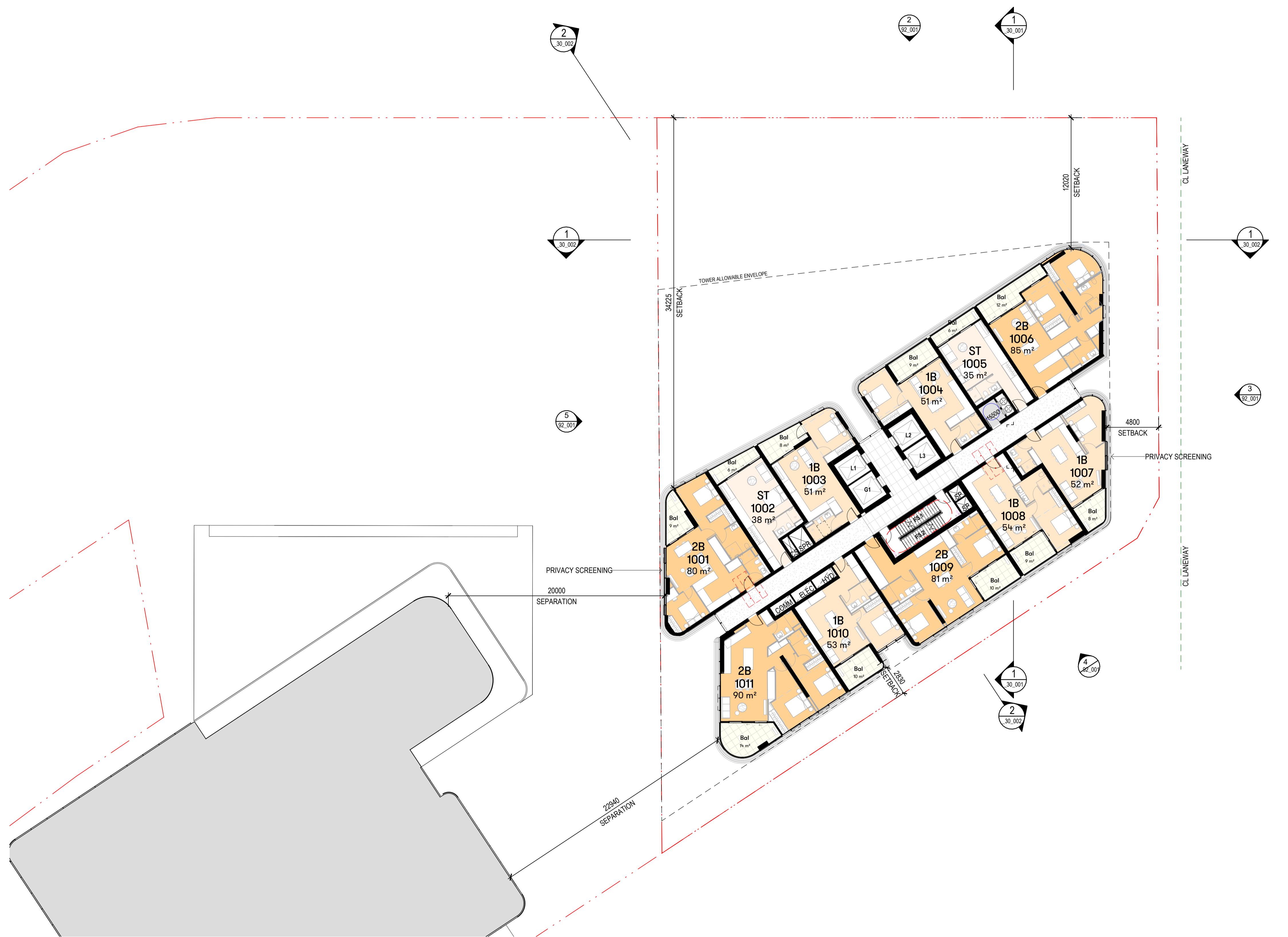
[Rev#] [Description]  
 A For Coordination  
 B ISSUED FOR SSDA  
 [Date] dd.mm.yyyy  
 30.01.24  
 12.03.24





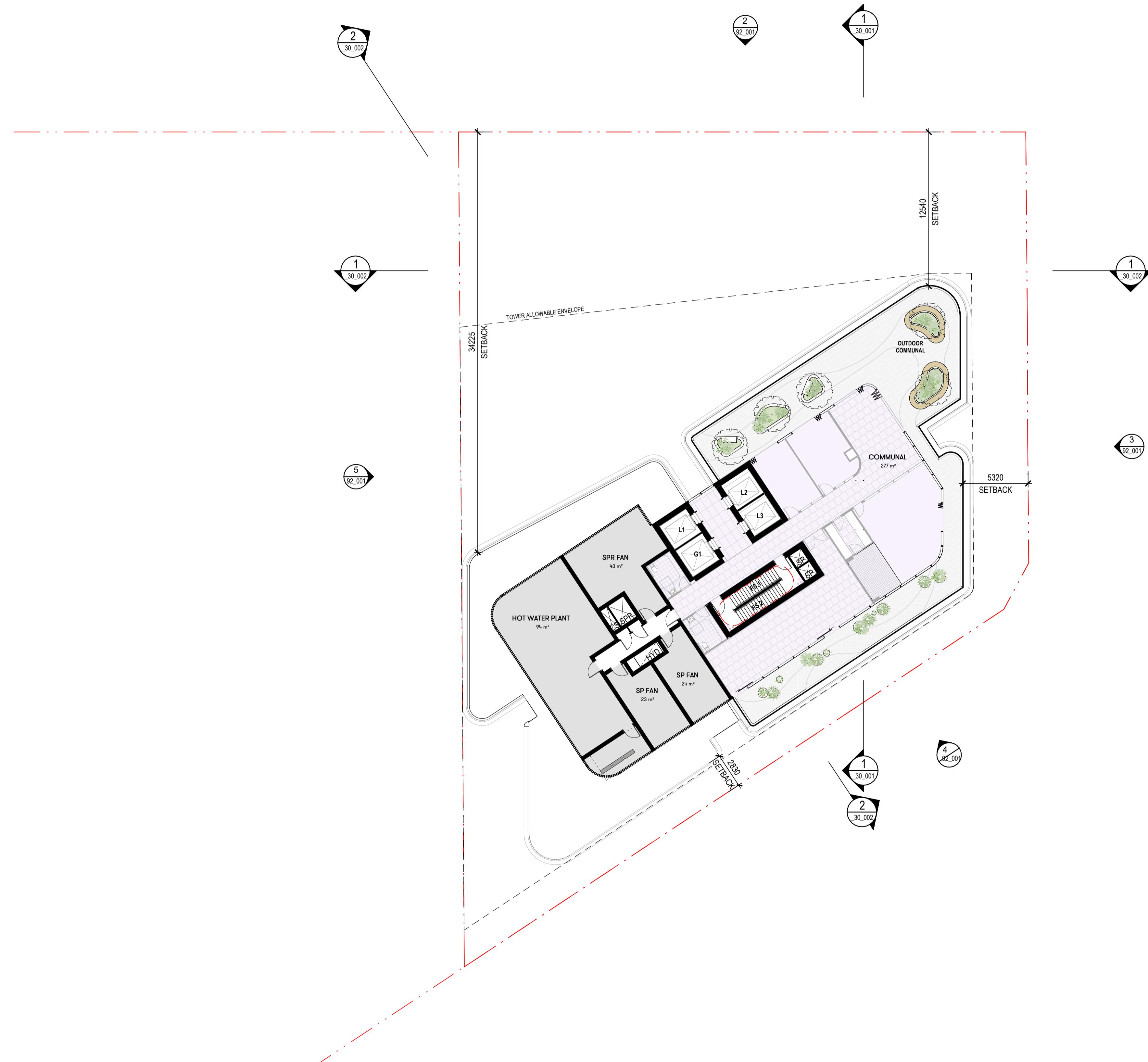






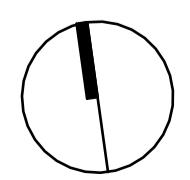
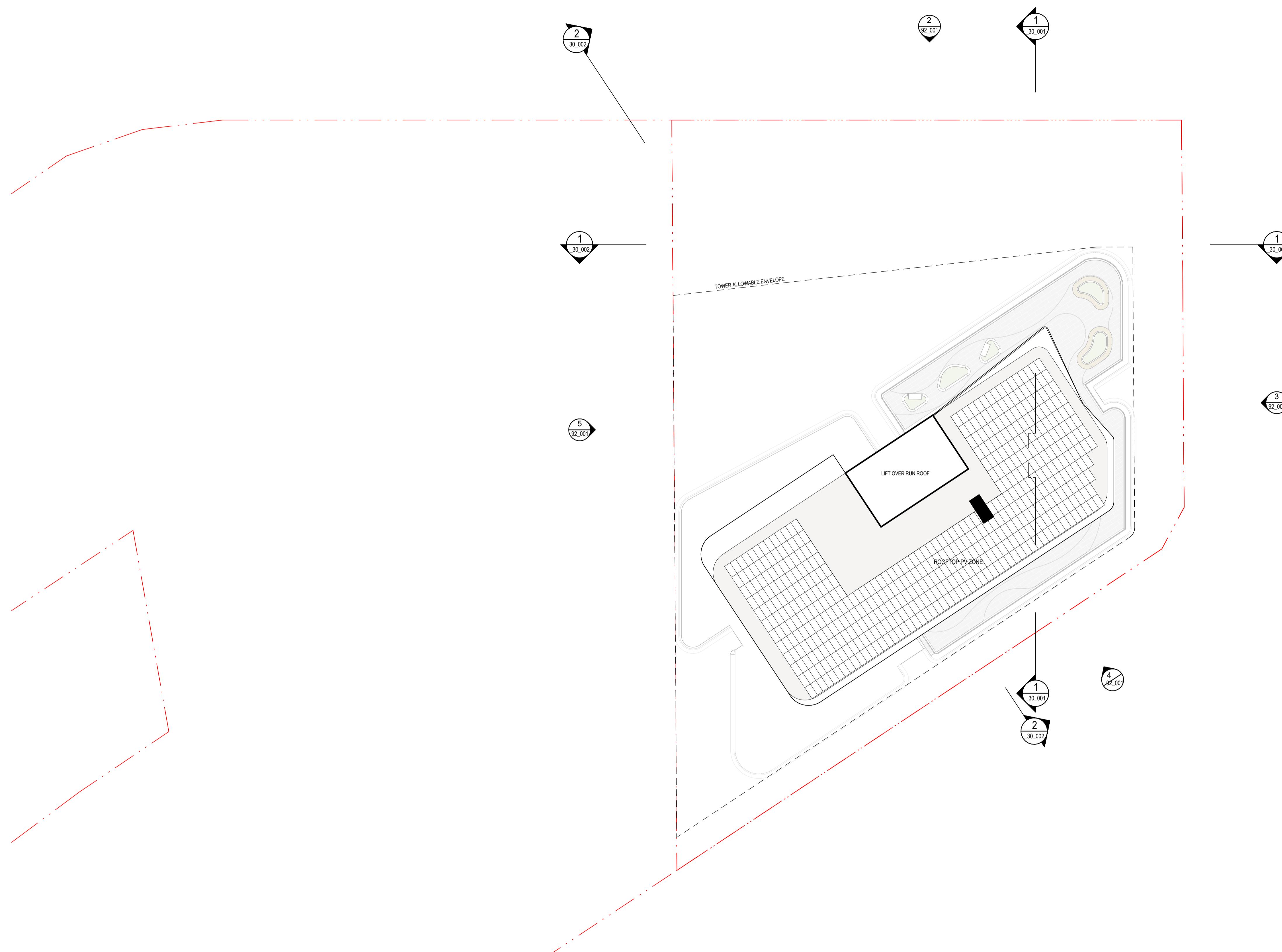
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 [File] 20230059-AB-DA001-R24  
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 B ISSUED FOR SSDA 12.03.24

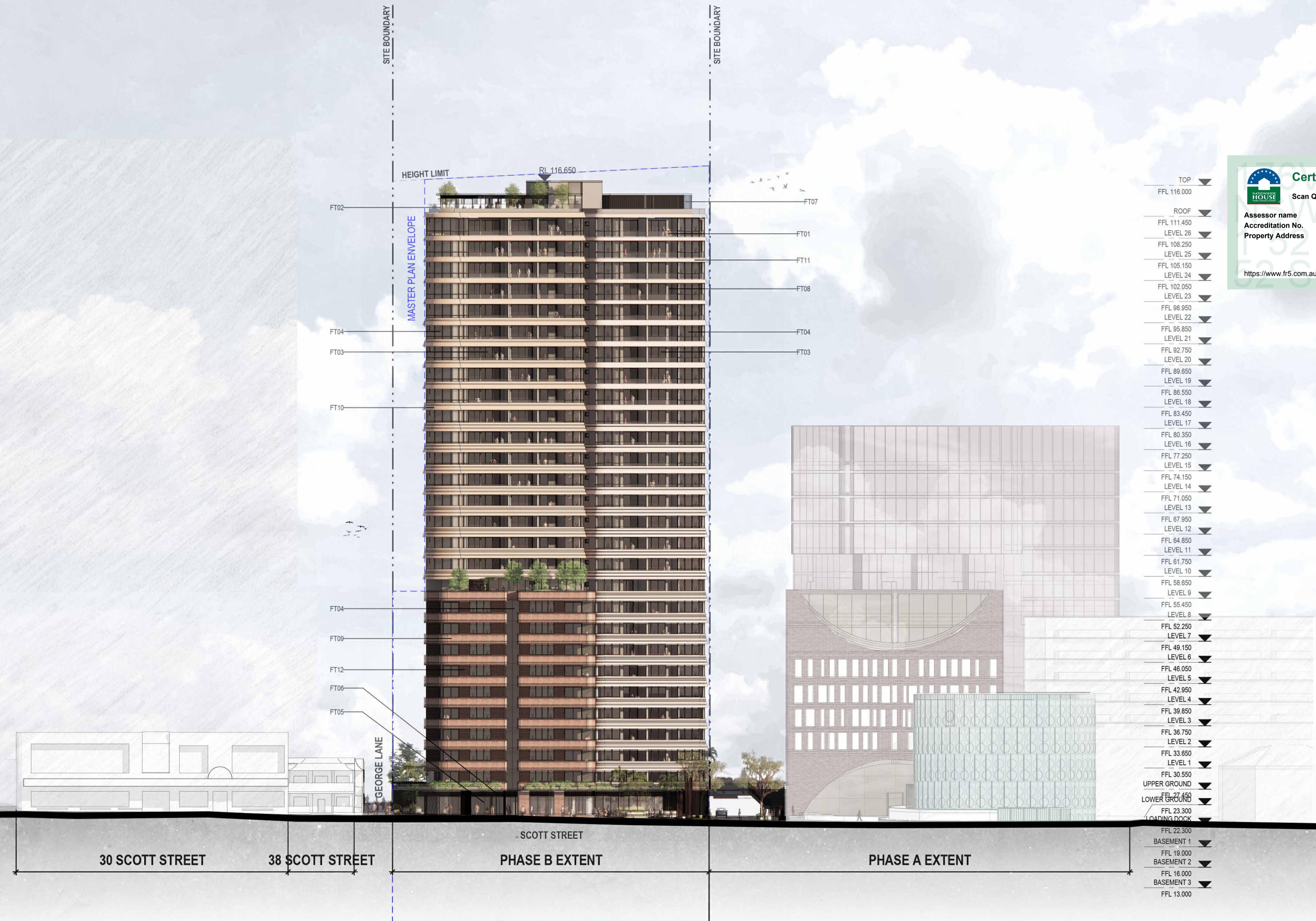


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 [Nom. Architect] NICK BANDOUNAS /8499  
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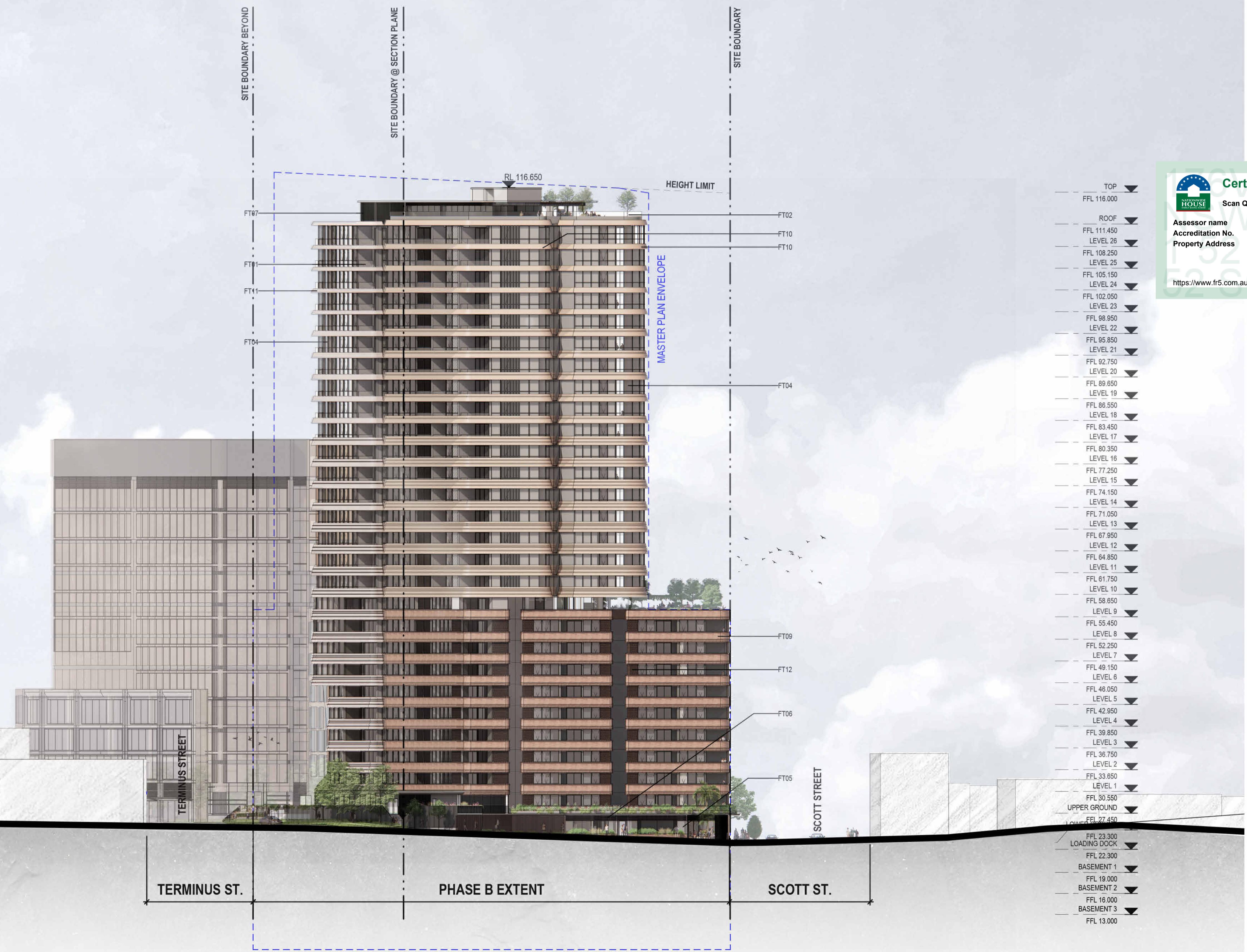
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 A For Coordination 30.01.24  
 B ISSUED FOR SSDA 12.03.24



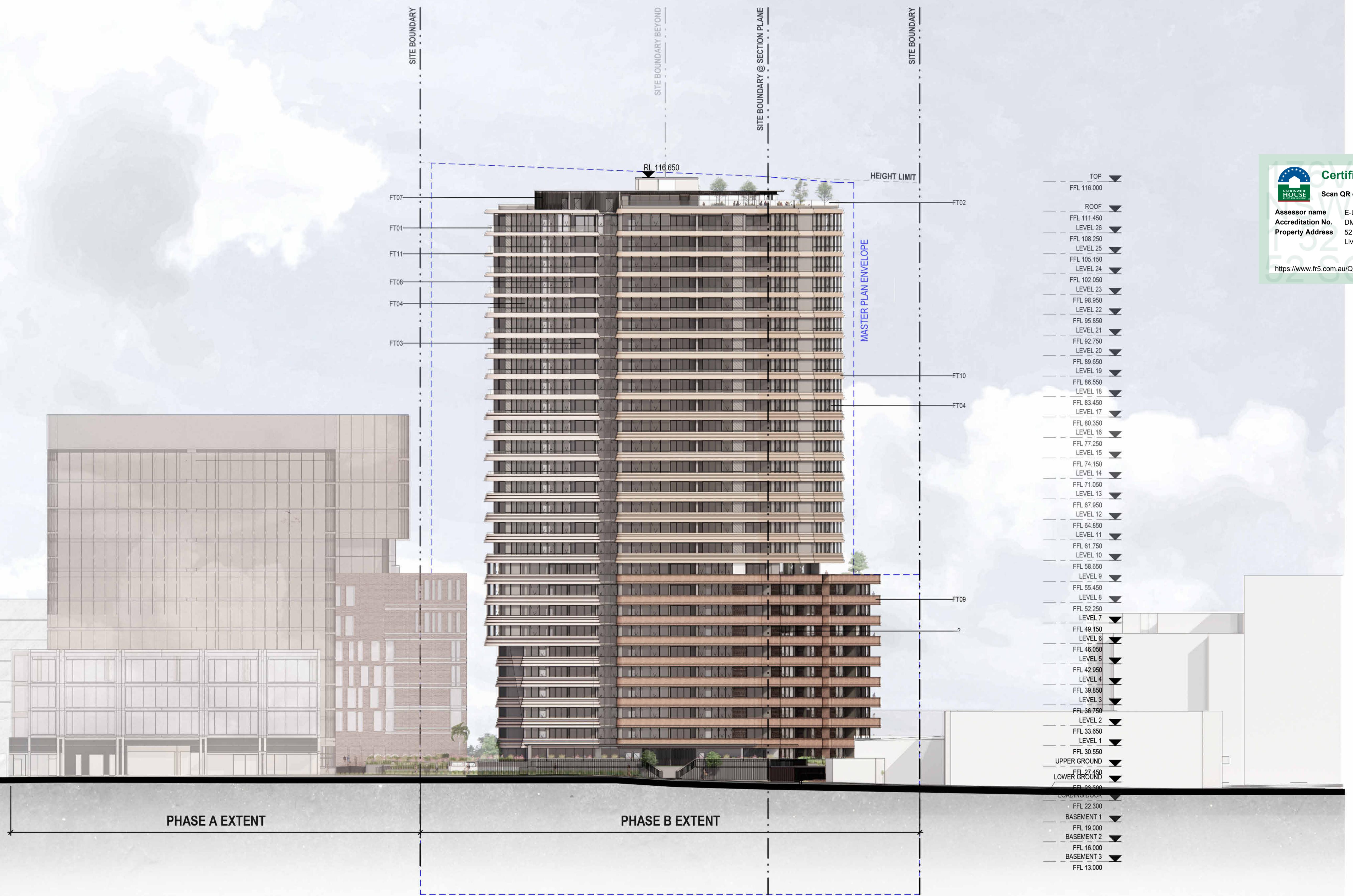
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 [Nom. Architect] NICK BANDOUNAS /8499  
 [File] 20230059-AB-DA001-R24  
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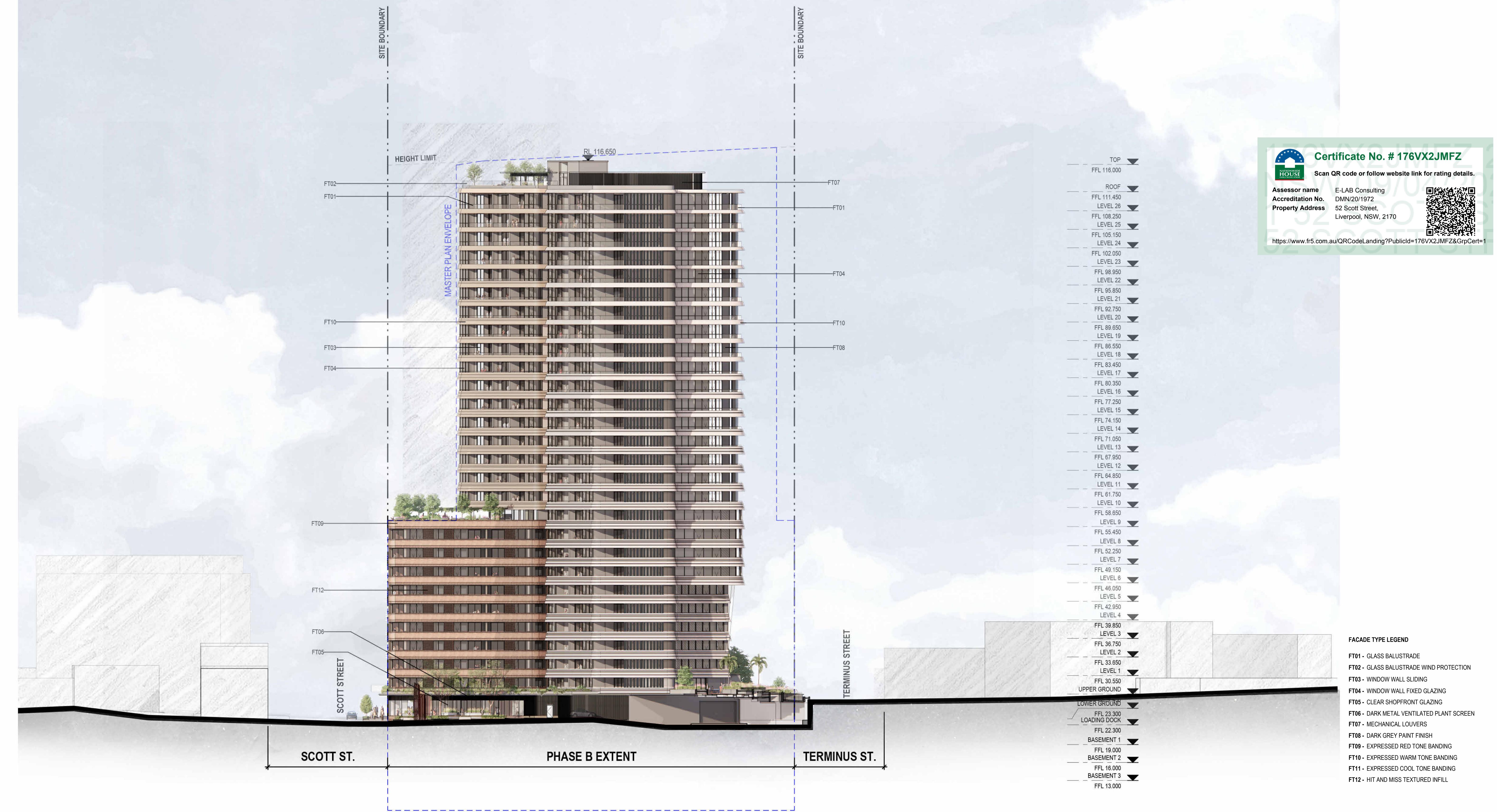


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 [Nom. Architect] NICK BANDOUNAS /8499  
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[Status] FOR APPROVAL  
[Nom. Architect] NICK BANDOUNAS /8499  
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[Date] dd.mm.yyyy 12.03.24



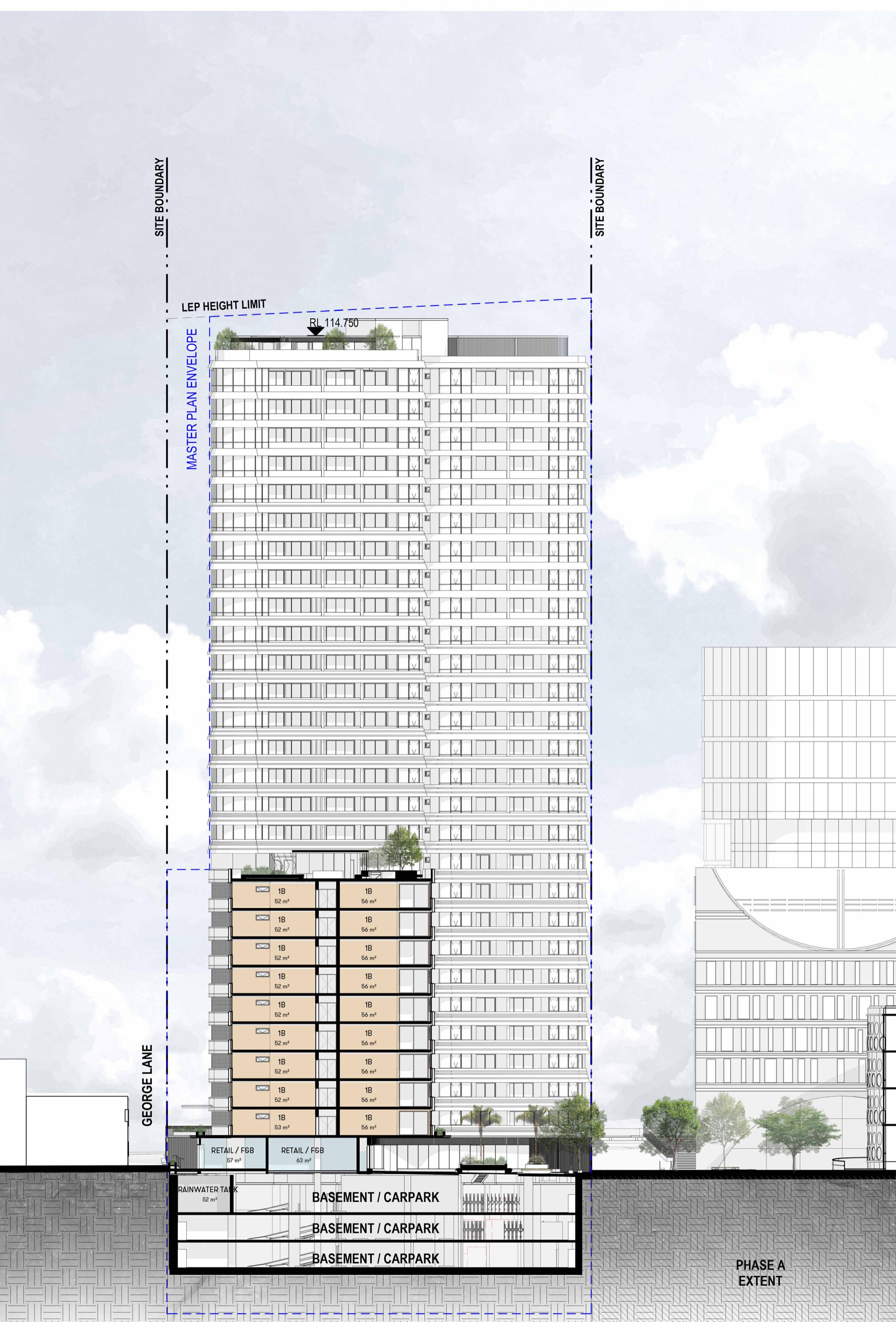




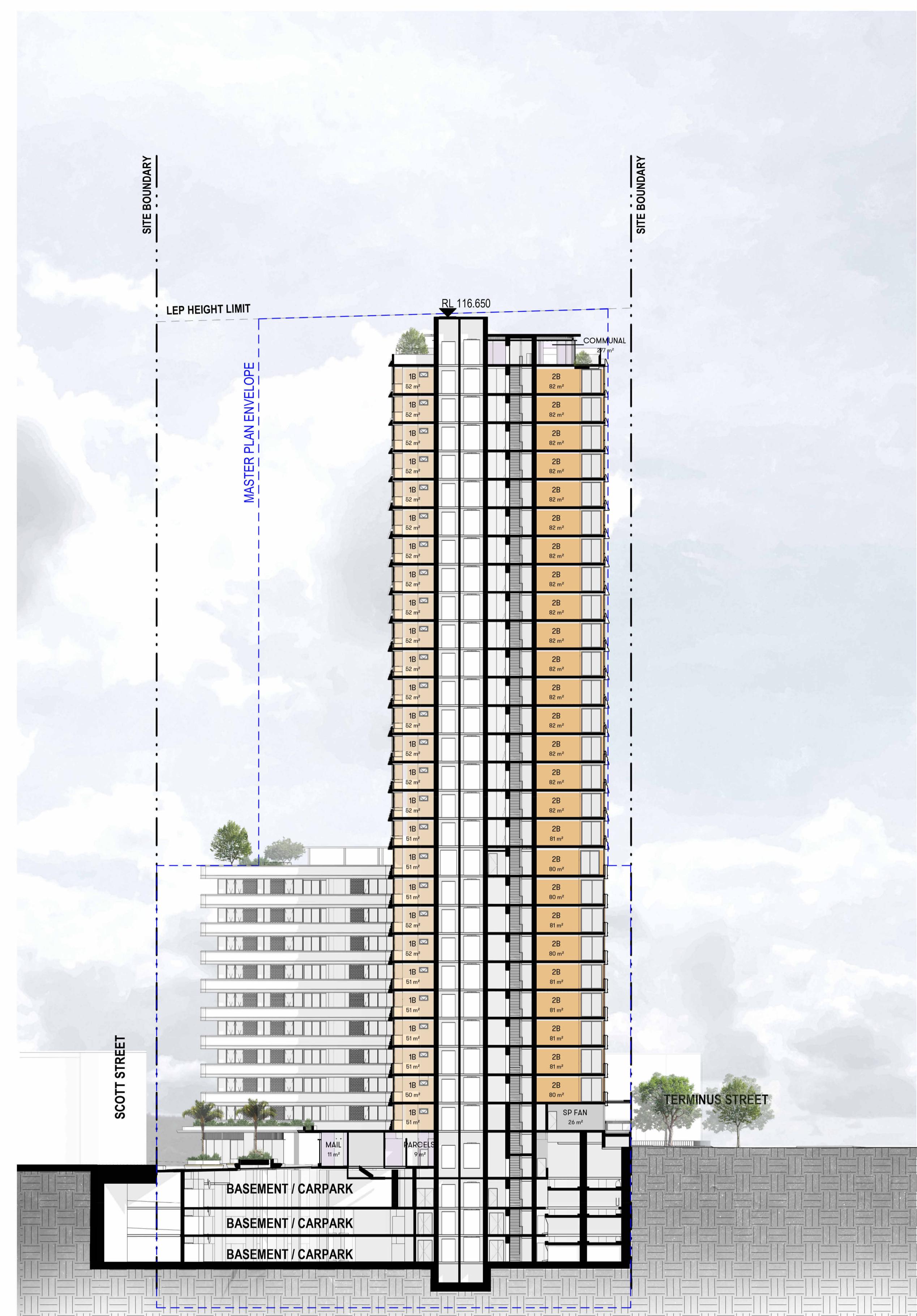
SECTION - EAST.  
1 1:300

TOP	FFL 116.000
ROOF	FFL 111.450
LEVEL 26	FFL 108.250
LEVEL 25	FFL 105.150
LEVEL 24	FFL 102.050
LEVEL 23	FFL 98.950
LEVEL 22	FFL 95.850
LEVEL 21	FFL 92.750
LEVEL 20	FFL 89.650
LEVEL 19	FFL 86.550
LEVEL 18	FFL 83.450
LEVEL 17	FFL 80.350
LEVEL 16	FFL 77.250
LEVEL 15	FFL 74.150
LEVEL 14	FFL 71.050
LEVEL 13	FFL 67.950
LEVEL 12	FFL 64.850
LEVEL 11	FFL 61.750
LEVEL 10	FFL 58.650
LEVEL 9	FFL 55.450
LEVEL 8	FFL 52.250
LEVEL 7	FFL 49.150
LEVEL 6	FFL 46.050
LEVEL 5	FFL 42.950
LEVEL 4	FFL 39.850
LEVEL 3	FFL 36.750
LEVEL 2	FFL 33.650
LEVEL 1	FFL 30.550
UPPER GROUND	FFL 27.450
LOWER GROUND	FFL 23.300
LOADING DOCK	FFL 22.300
BASEMENT 1	FFL 19.000
BASEMENT 2	FFL 16.000
BASEMENT 3	FFL 13.000



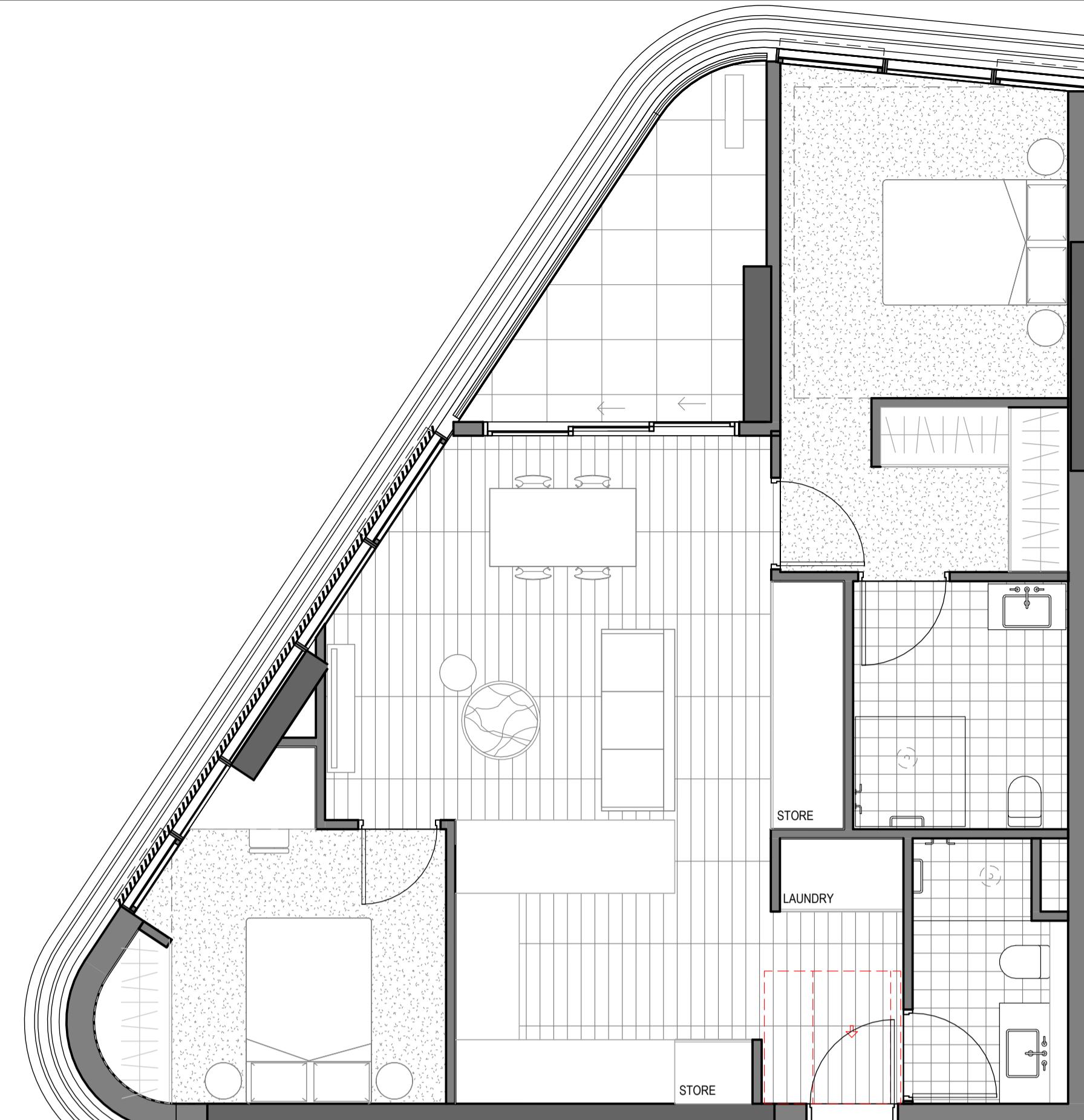


1 SECTION - NORTH.  
1 : 300



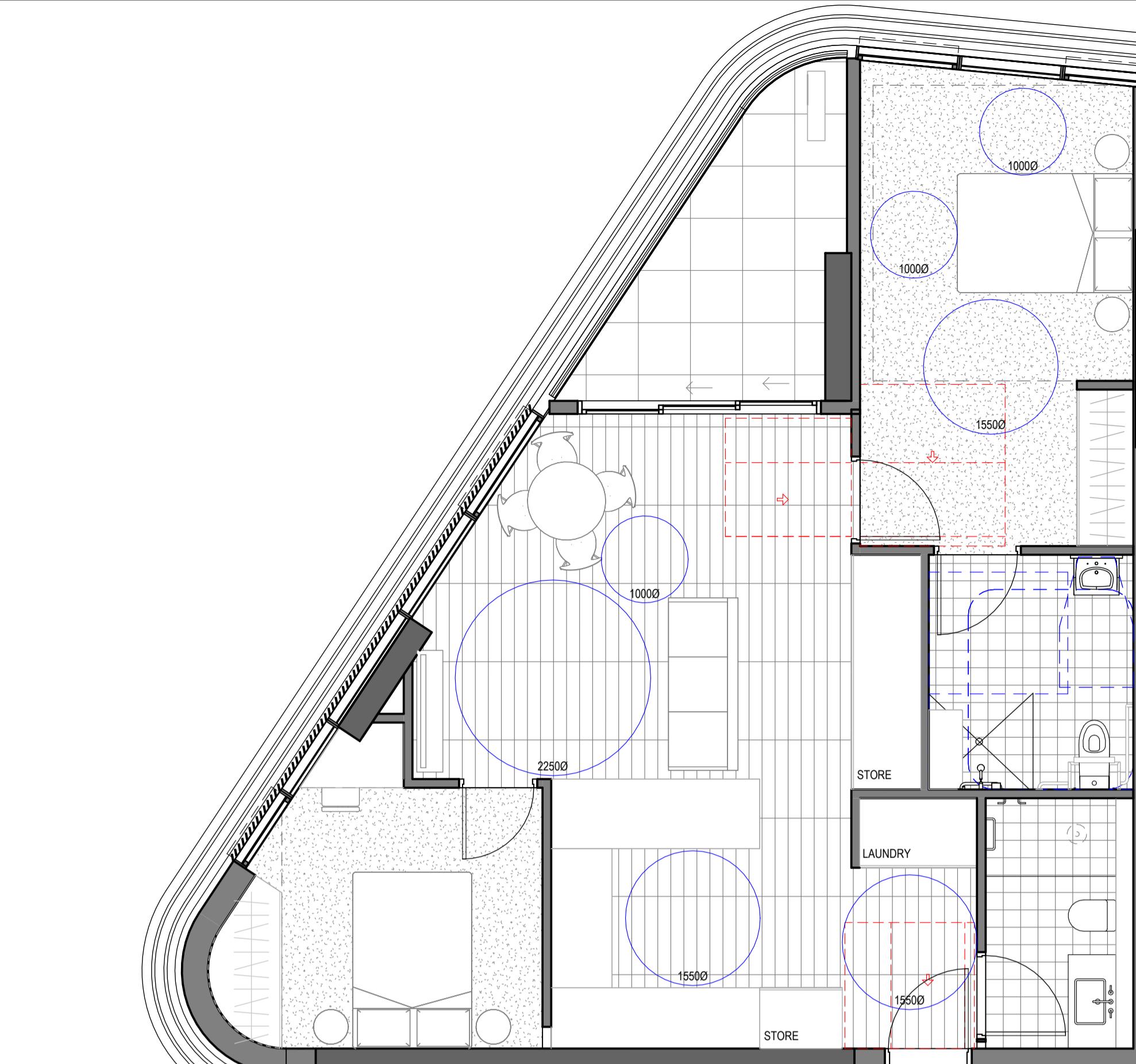
2 SECTION - WEST.  
1 : 300

[Status] FOR APPROVAL  
 [Nom. Architect] NICK BANDOUNAS /8499  
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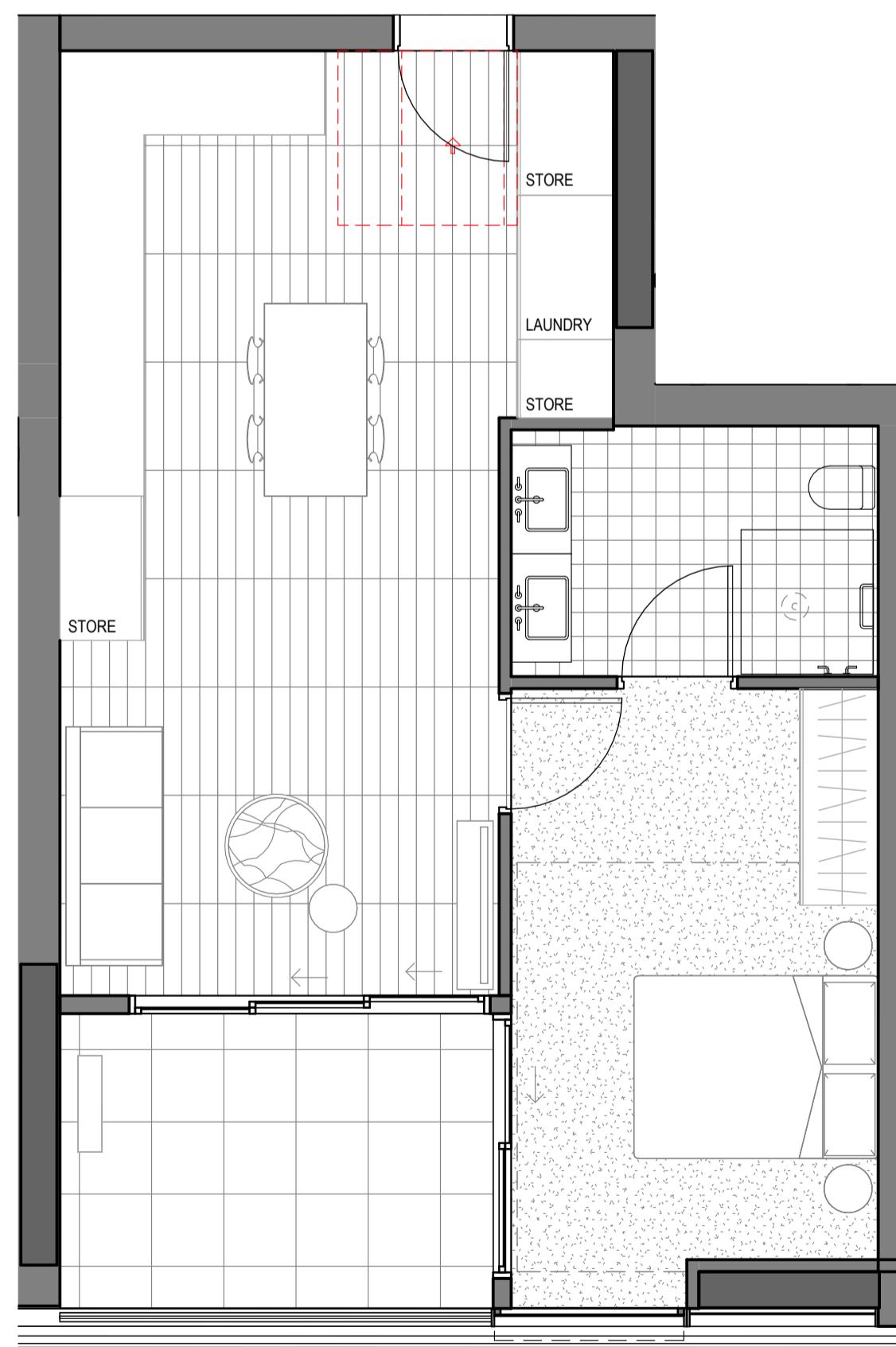
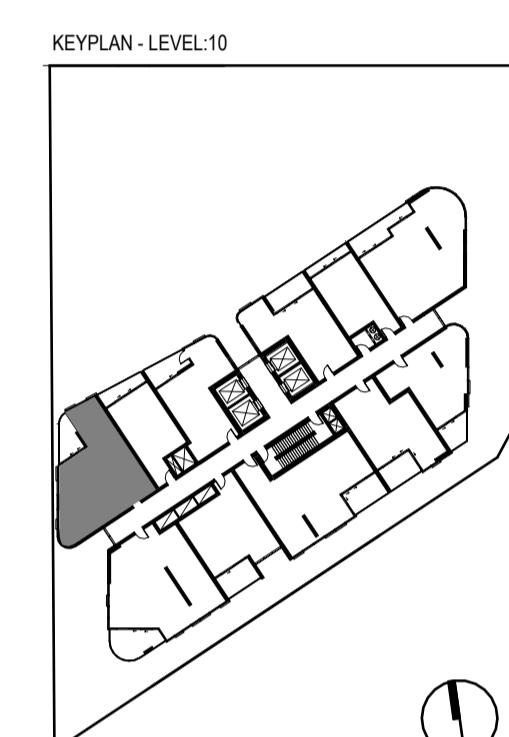
3 ADAPTABLE APARTMENT 2B - PRE

1 : 50 LEVELS 10-26 (16 APARTMENTS)



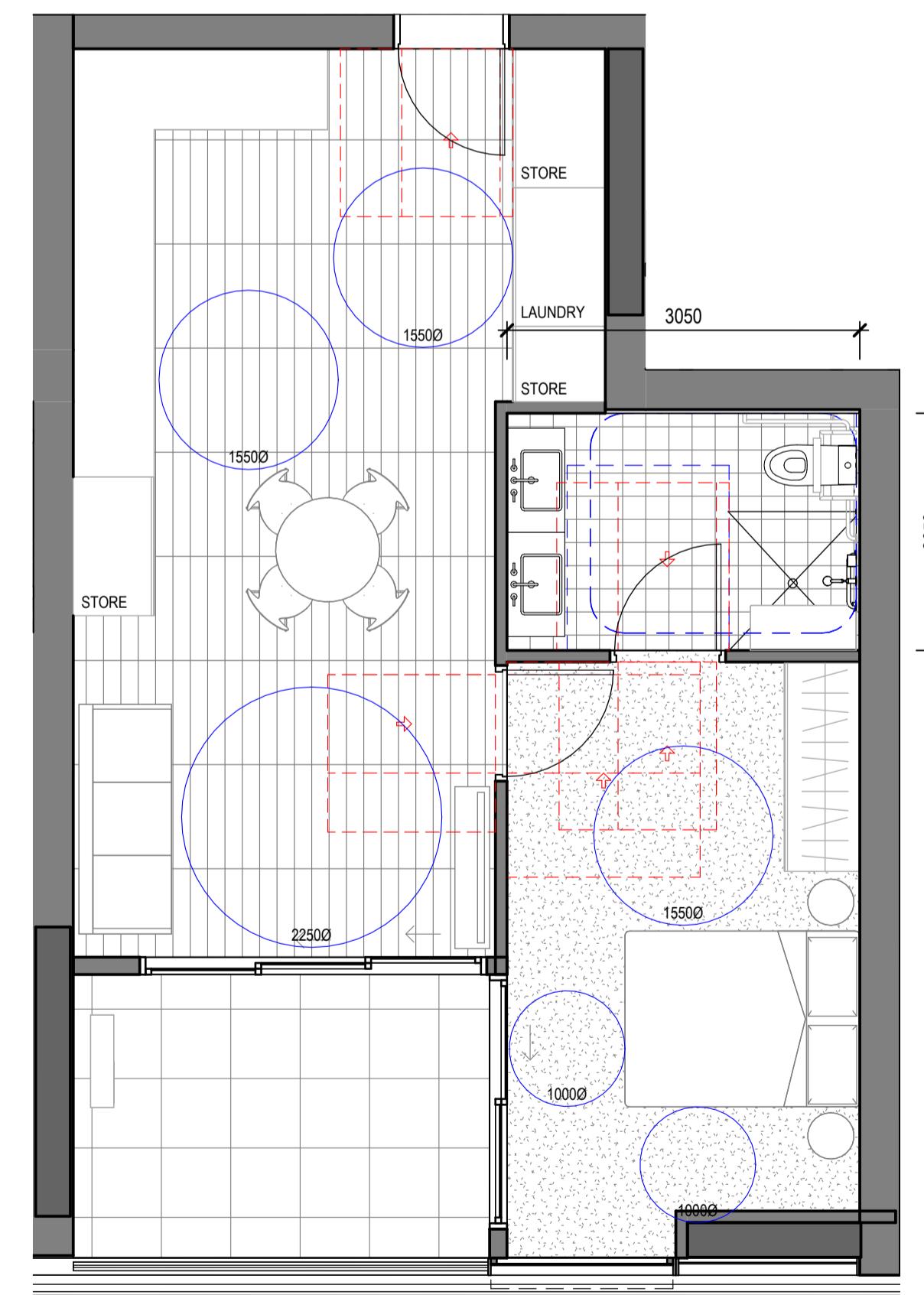
4 ADAPTABLE APARTMENT 2B - POST

1 : 50 LEVELS 10-26 (16 APARTMENTS)



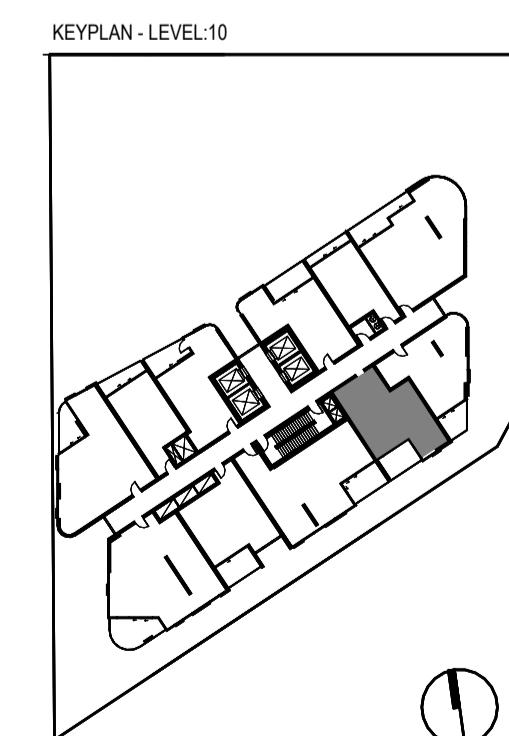
1 ADAPTABLE APARTMENT 1B - PRE

1 : 50 LEVELS 10-26 (16 APARTMENTS)

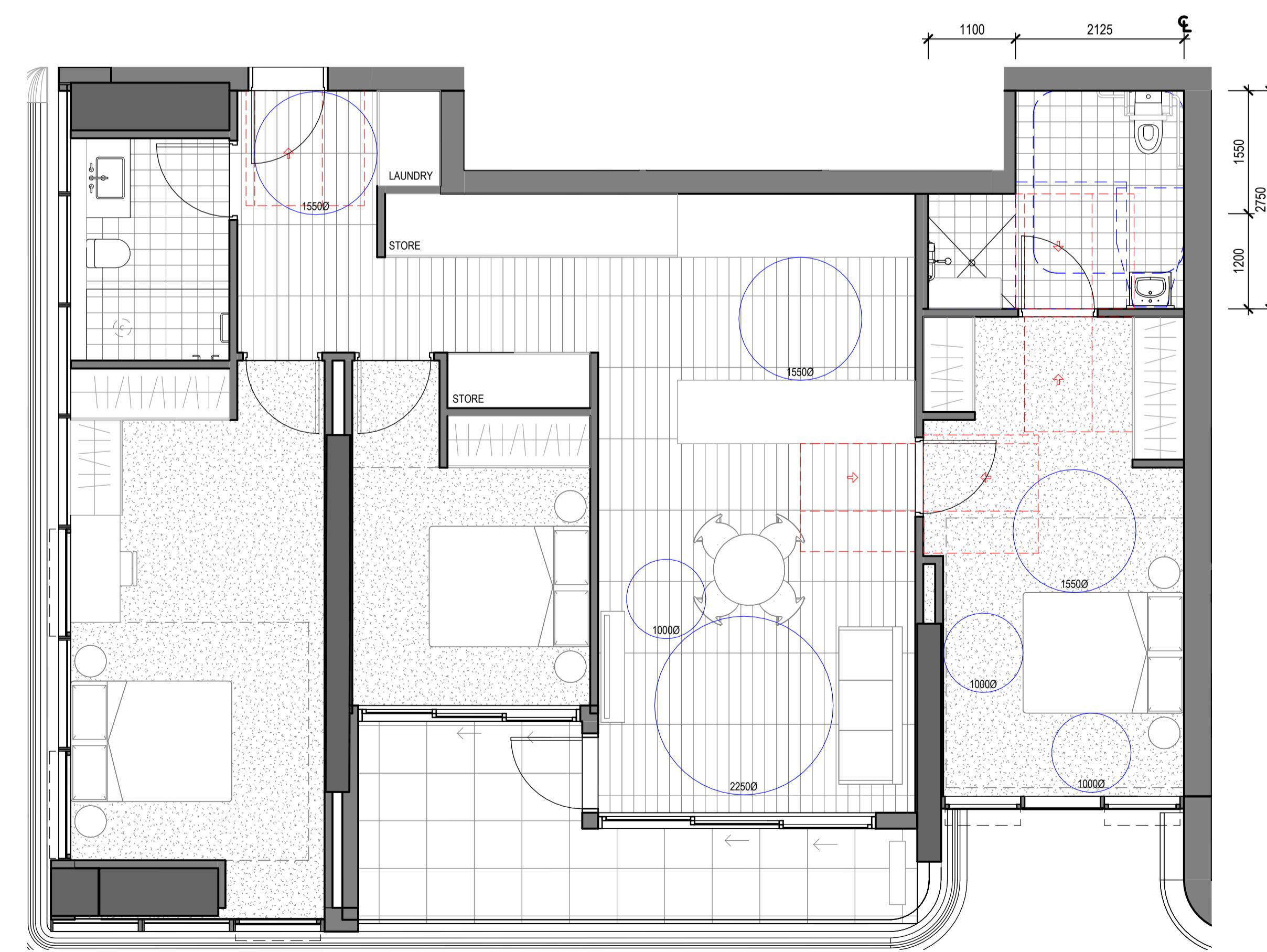
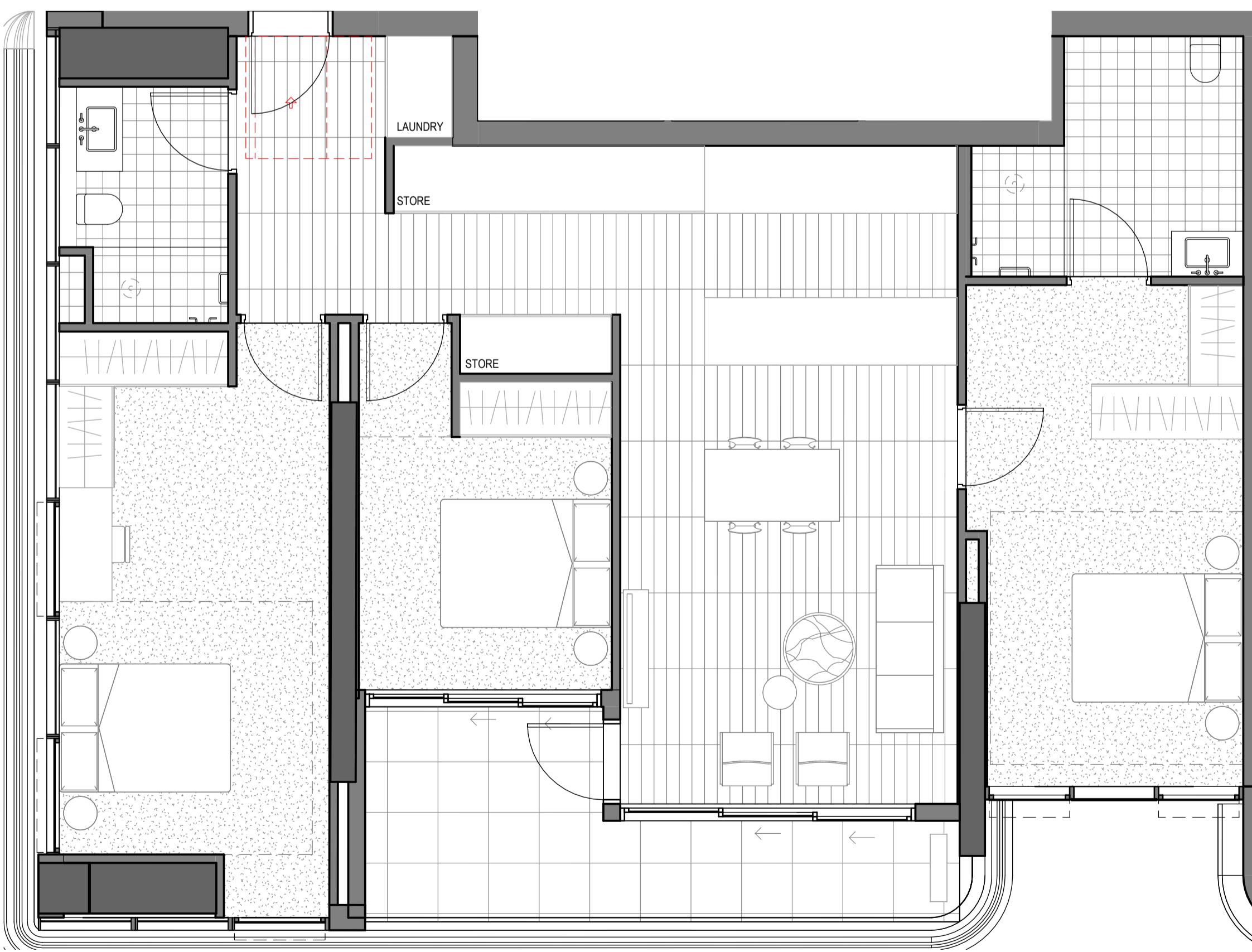


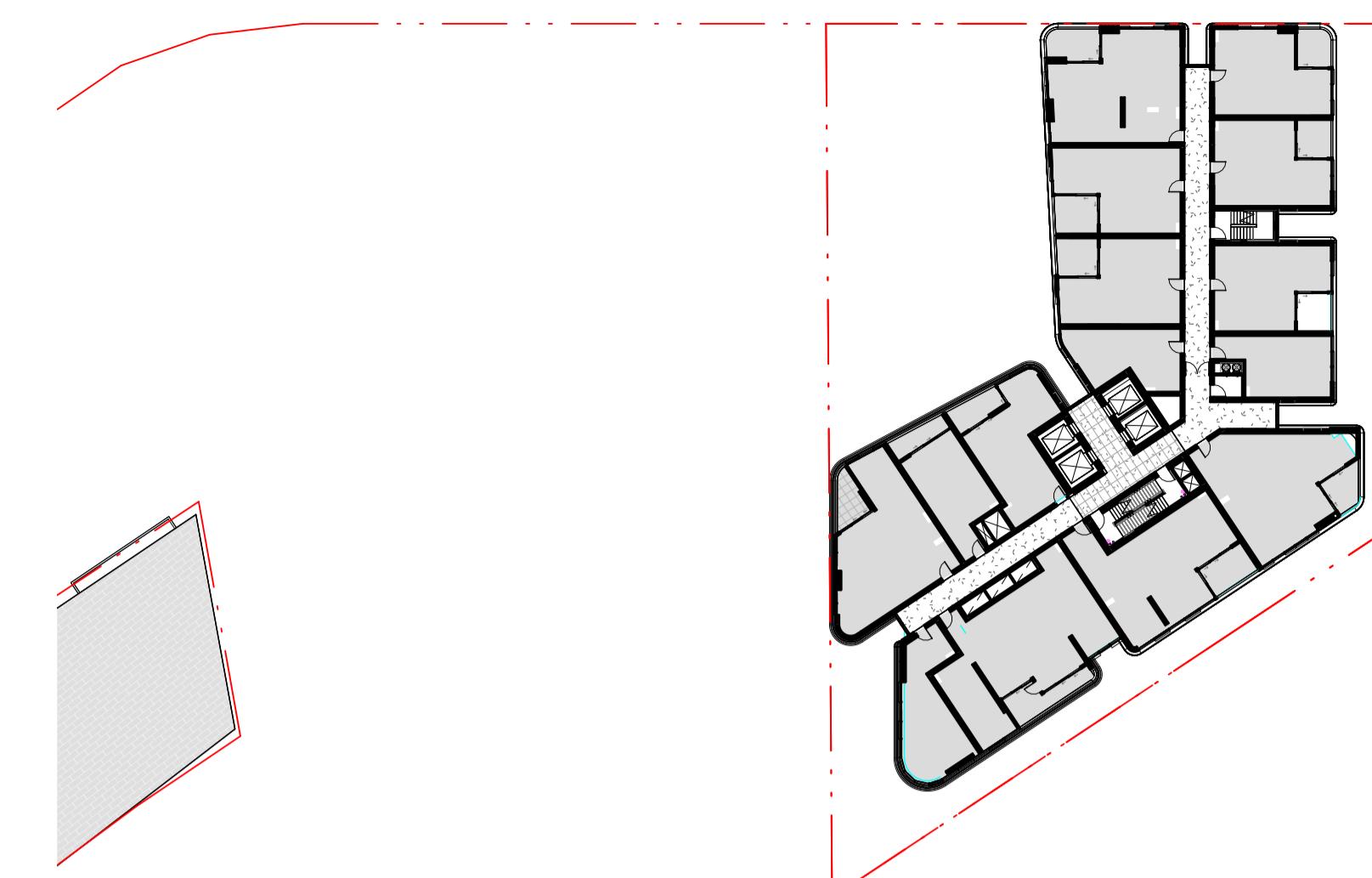
2 ADAPTABLE APARTMENT 1B - POST

1 : 50 LEVELS 10-26 (16 APARTMENTS)



[Status] FOR APPROVAL  
 [Nom. Architect] NICK BANDOUNAS /8499  
 [File] 20230059-AB-DA001-R24  
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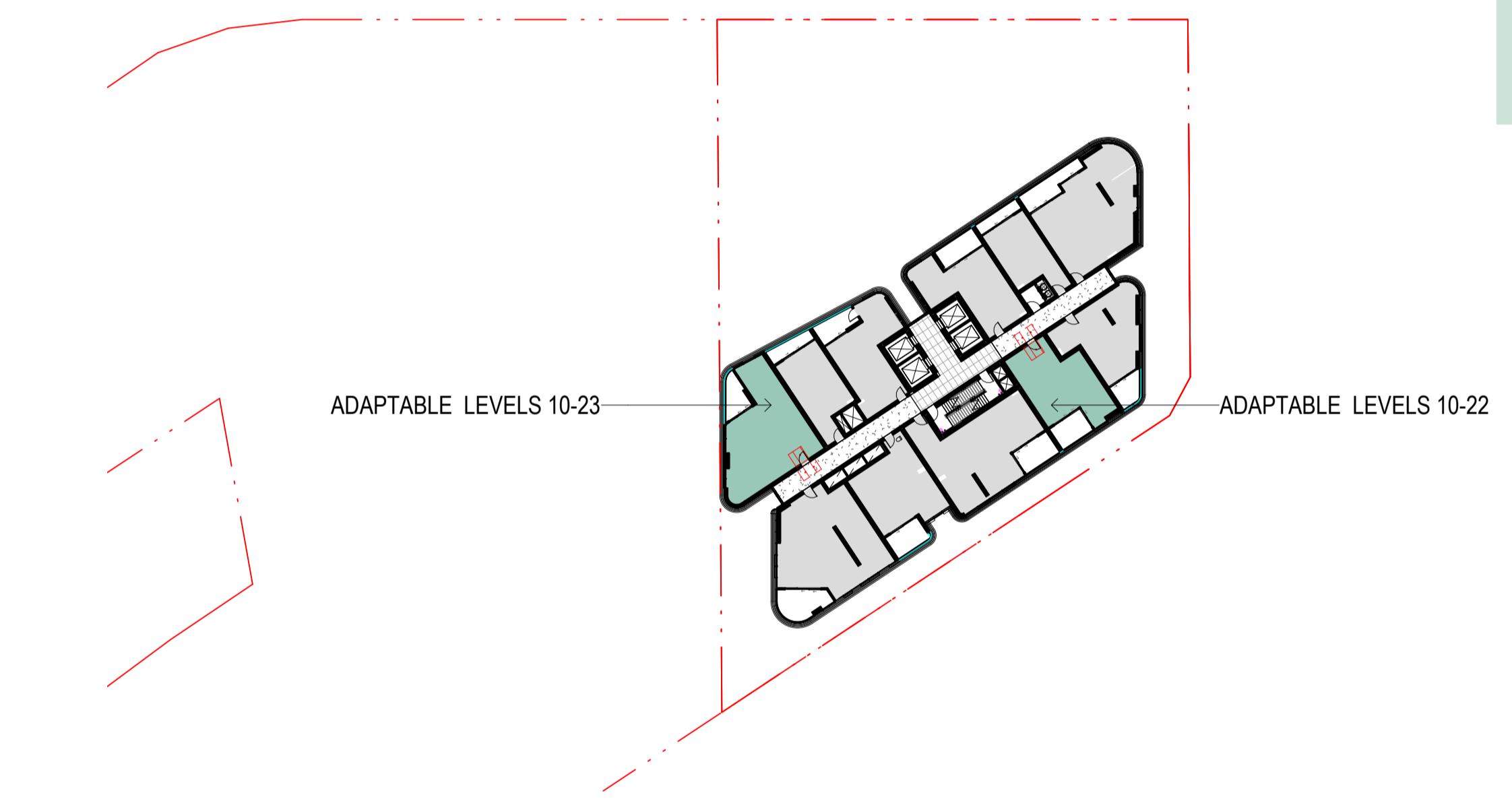
5 ADAPTABLE - LEVELS 6-8  
1:500



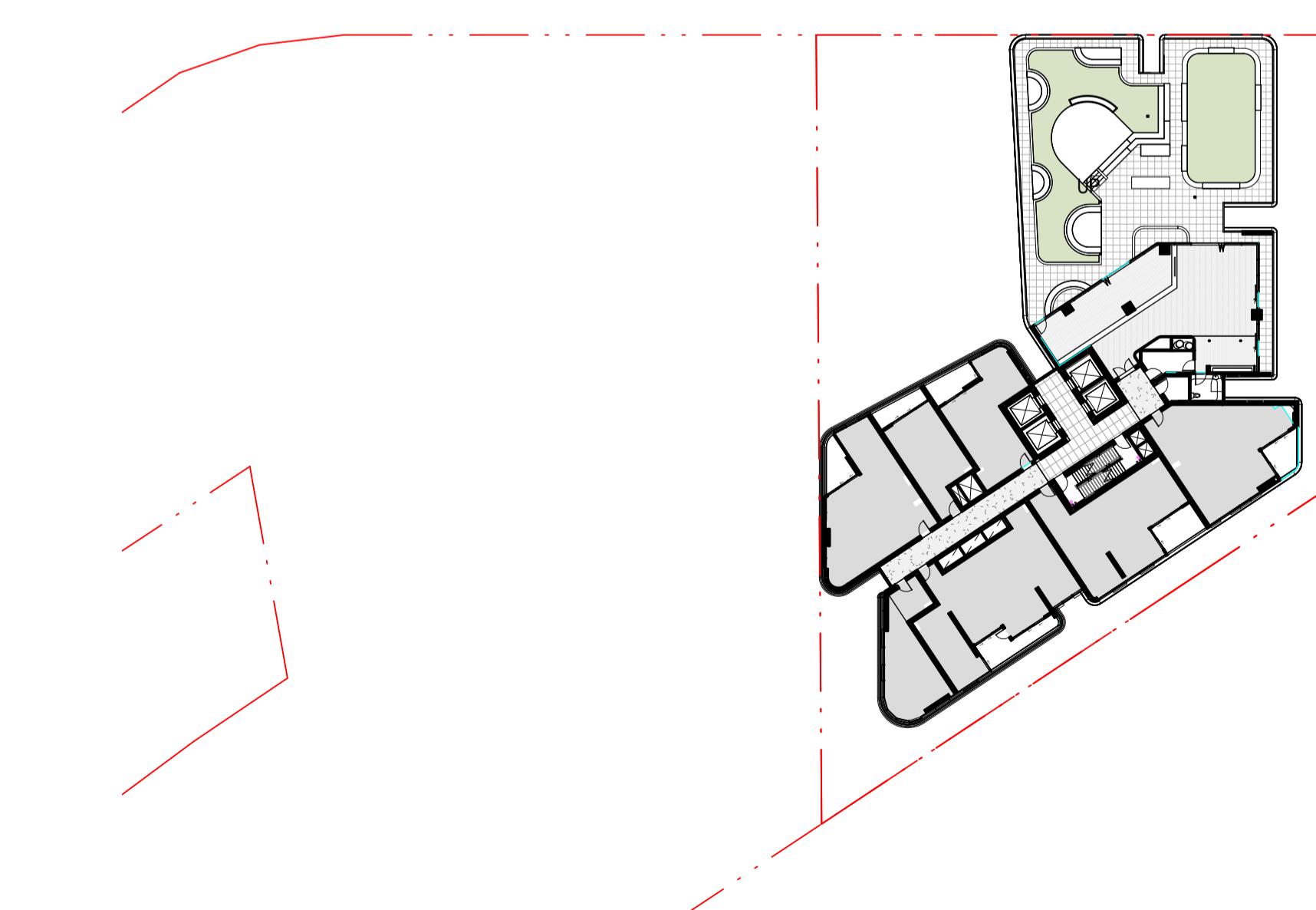
2 ADAPTABLE - LEVELS 1-5  
1:500



1 ADAPTABLE - UPPER GROUND  
1:500



4 ADAPTABLE - LEVELS 10-26  
1:500

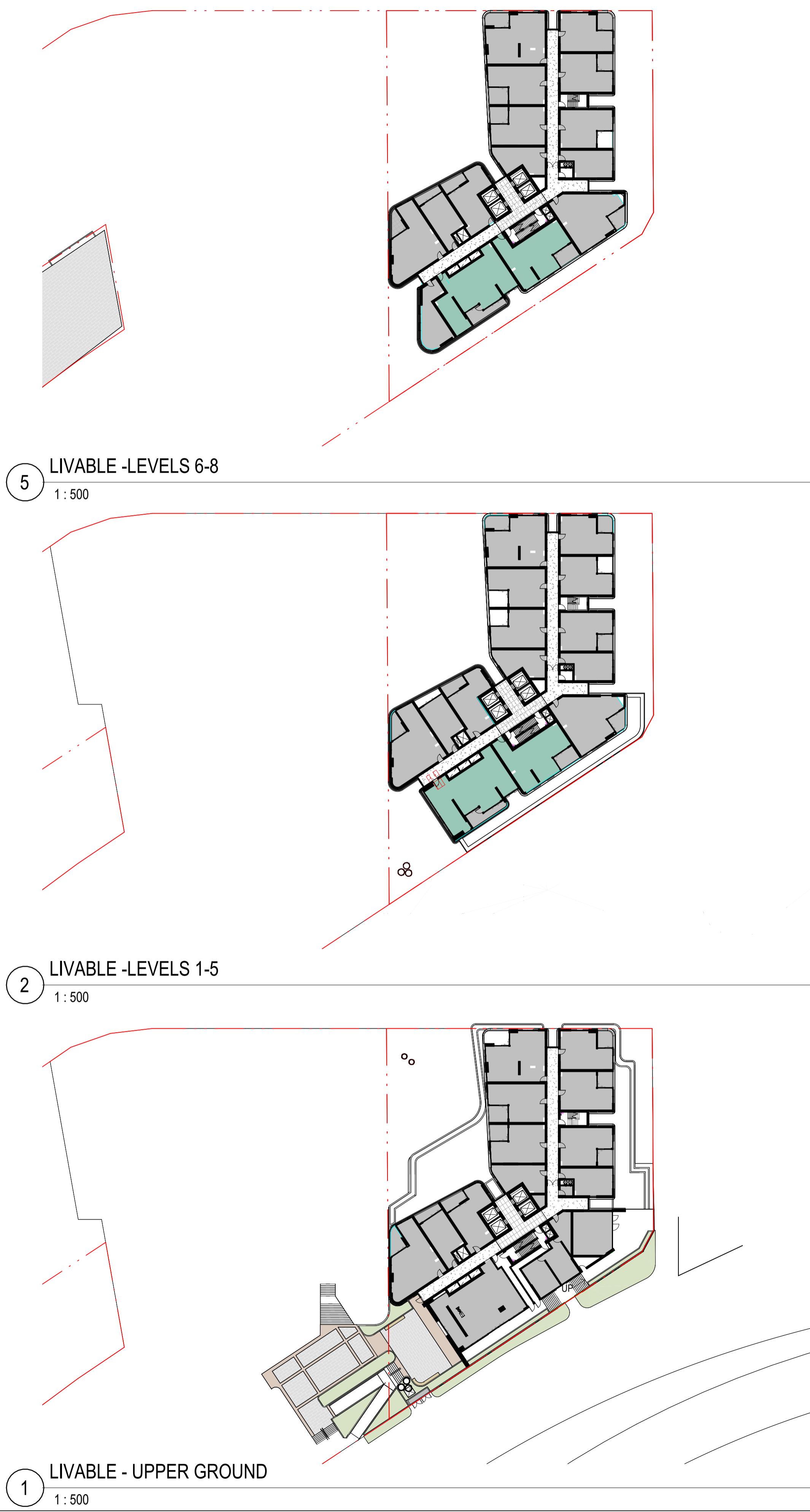


3 ADAPTABLE - LEVEL 9  
1:500

0 5 10 15 20 25 m  
Bar Scale 1:500  
[Scale] 1: 500 @ A1

SSDA - Apartment Schedule - Adaptable Apartments.		
Adaptable Apartment	Count	Percentage Mix
-	288	90.0%
YES	32	10.0%
Grand total:	320	

ADAPTABLE UNIT SCHEDULE  
 [Ref] 20230059 [Dwg No] AR-DRW-61\_200 [Rev] A



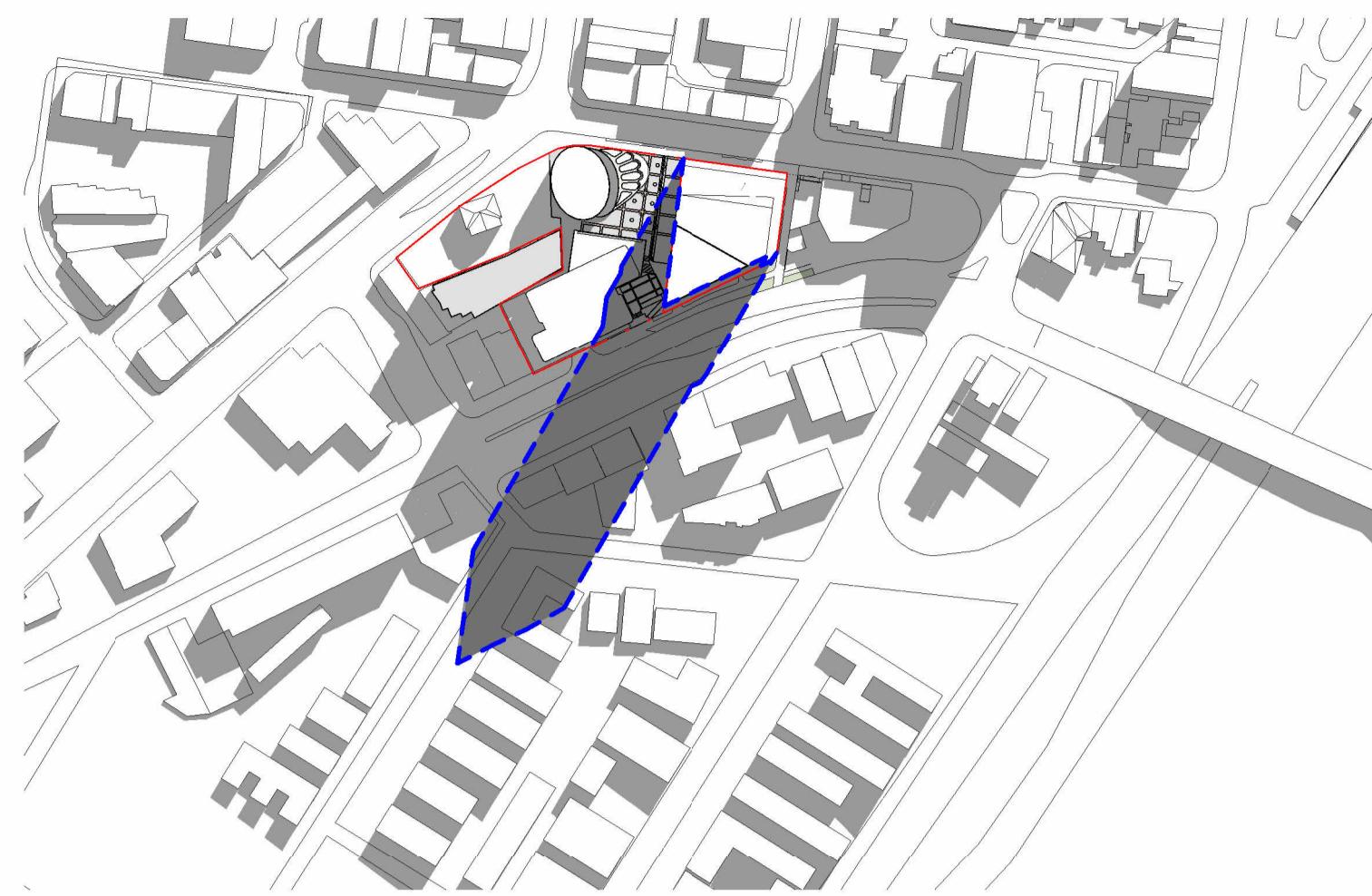
0 5 10 15 20 25 m  
 Bar Scale 1:500  
 [Scale] 1: 500 @ A1

SSDA - Apartment Schedule - Livable Apartments			
Livable Housing Design	Livable Housing Design Level	Count	Percentage Mix
No	<varies>	252	78.8%
Yes	SILVER	68	21.3%
Grand total: 320			

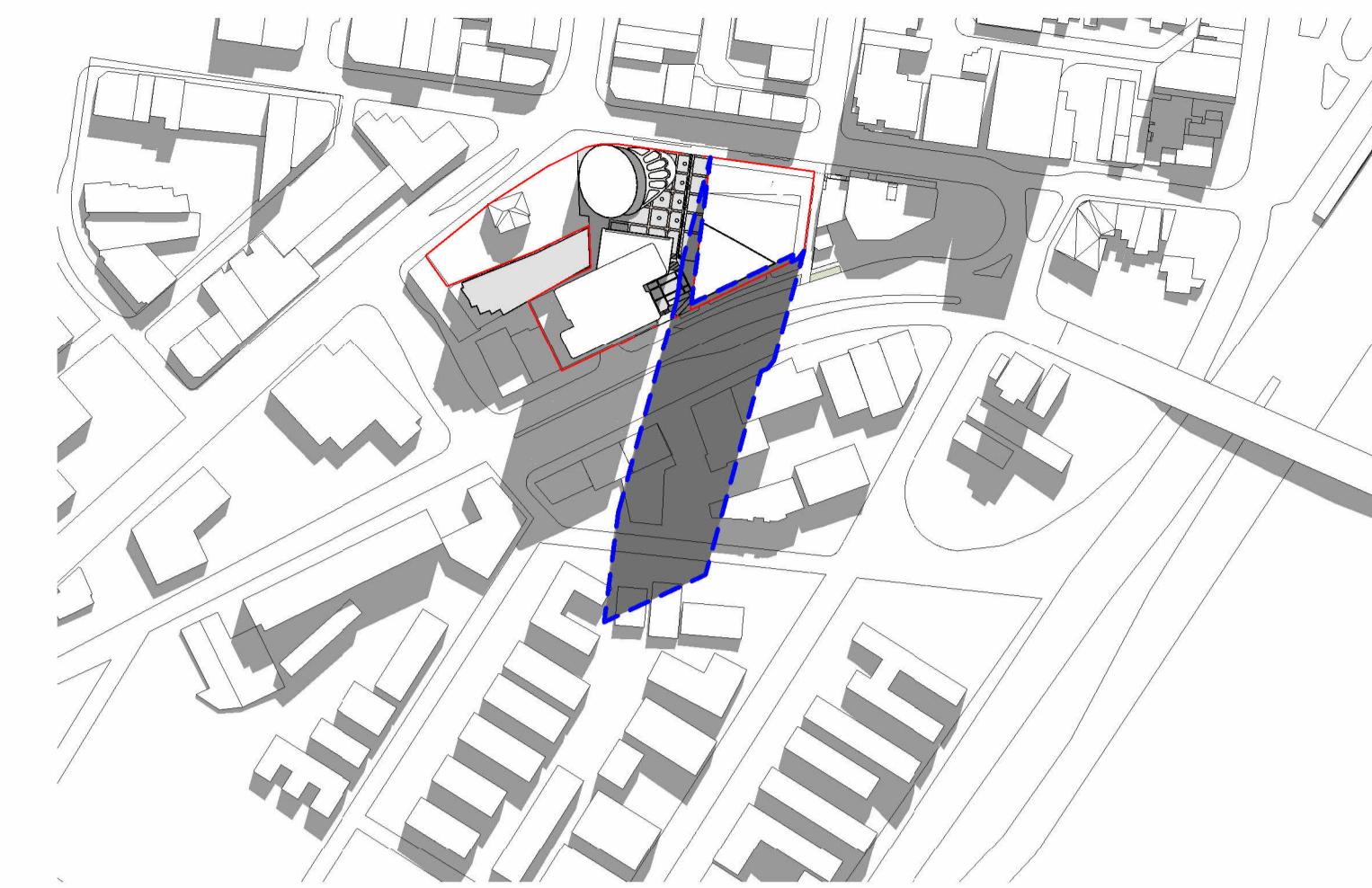
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 [Nom. Architect] NICK BANDOUNAS /8499  
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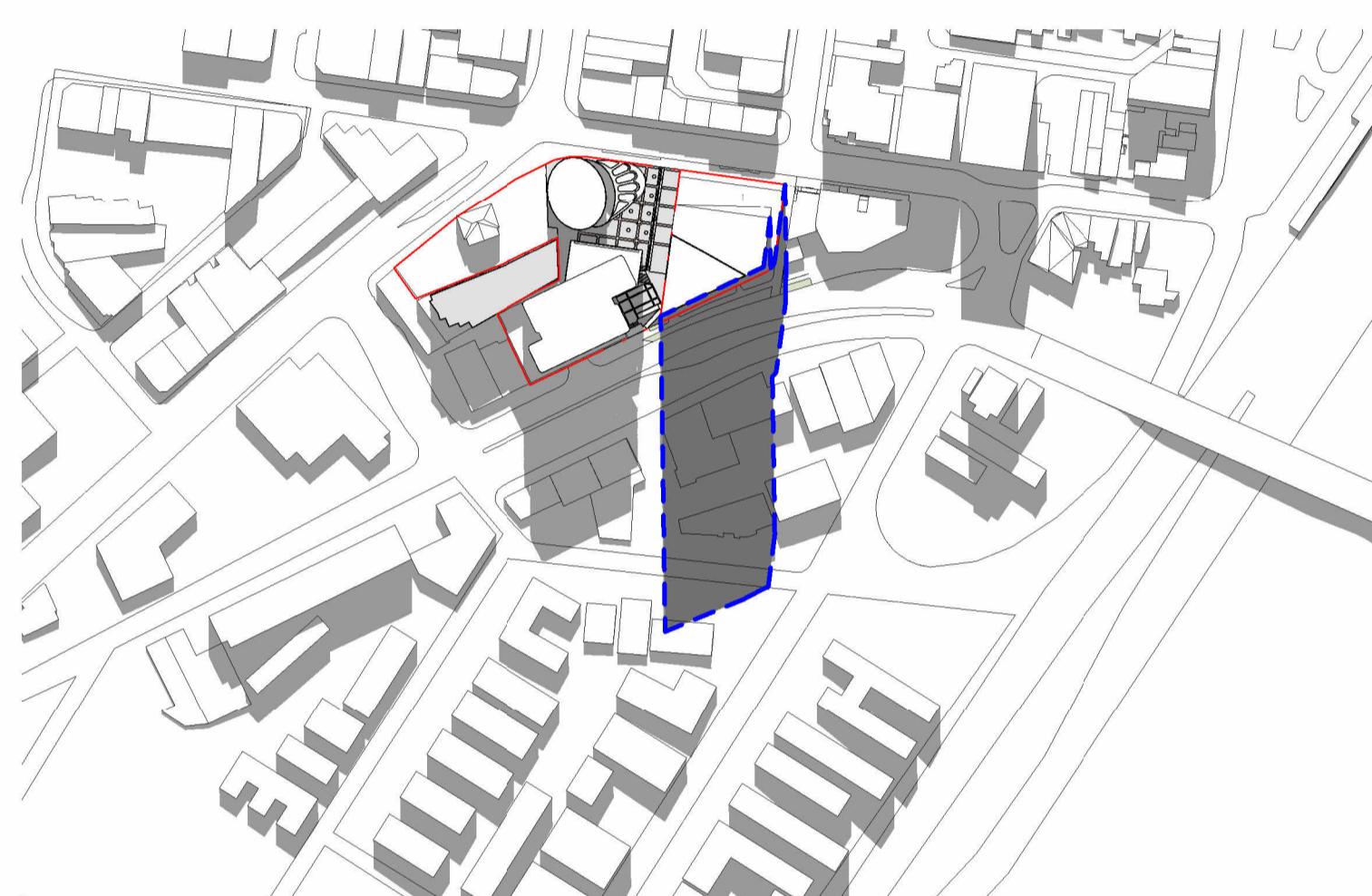
1 EXISTING SHADOW PLANS - WINTER SOLSTICE - 9AM  
1 : 3000



2 EXISTING SHADOW PLANS - WINTER SOLSTICE - 10AM  
1 : 3000



3 EXISTING SHADOW PLANS - WINTER SOLSTICE - 11AM  
1 : 3000



4 EXISTING SHADOW PLANS - WINTER SOLSTICE - 12PM  
1 : 3000



5 EXISTING SHADOW PLANS - WINTER SOLSTICE - 1PM  
1 : 3000



6 EXISTING SHADOW PLANS - WINTER SOLSTICE - 2PM  
1 : 3000



7 EXISTING SHADOW PLANS - WINTER SOLSTICE - 3PM  
1 : 3000



**SHADOW PLAN LEGEND**  
 APPROVED SHADOW OUTLINE  
 INCREASE IN SHADOW AREA  
 REDUCTION IN SHADOW AREA

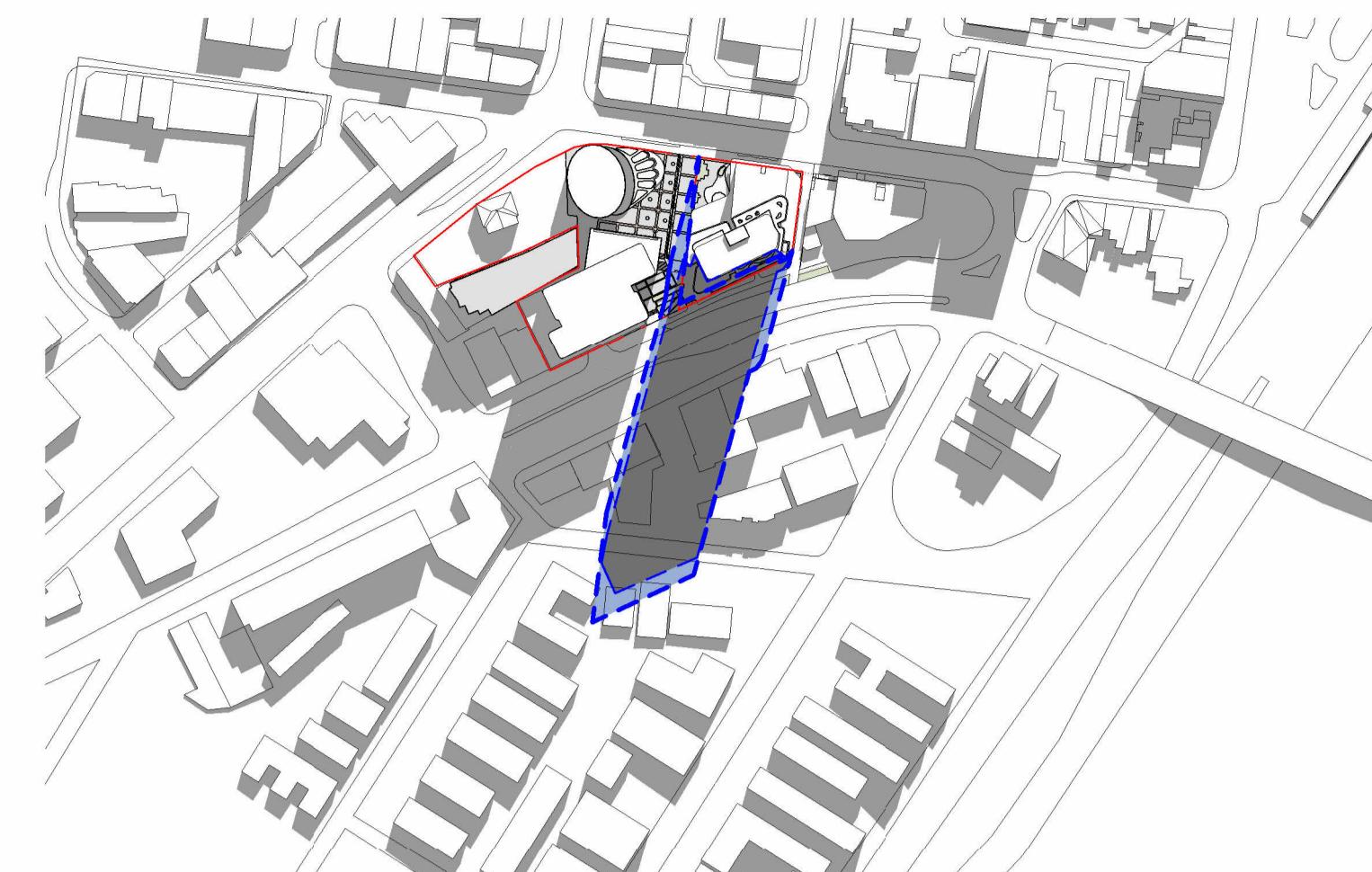
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 [Nom. Architect] NICK BANDOUNAS /8499  
 [File] 20230059-AB-DA001-R24  
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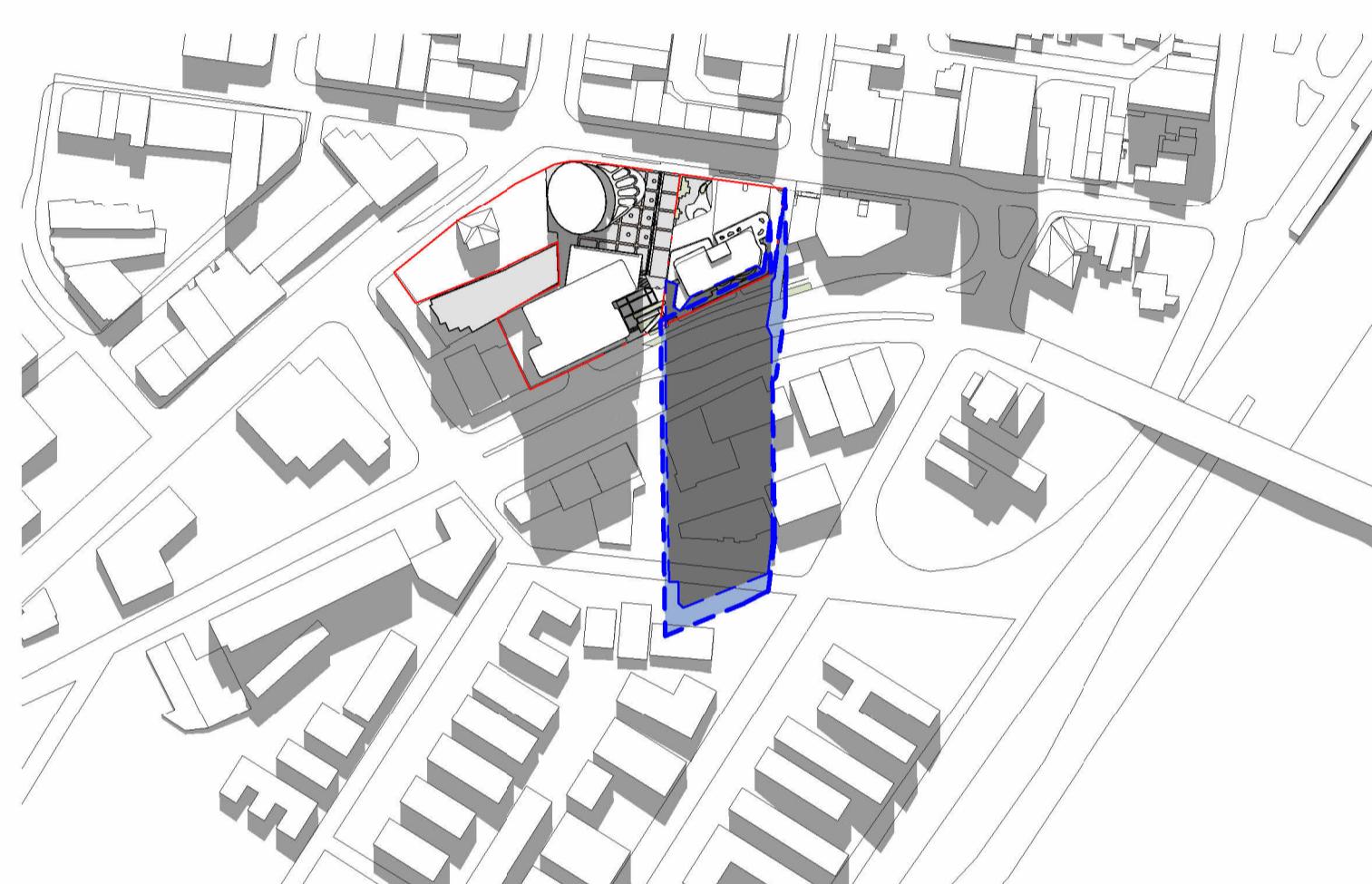
1 PROPOSED SHADOW PLANS - WINTER SOLSTICE - 9AM  
1 : 3000



2 PROPOSED SHADOW PLANS - WINTER SOLSTICE - 10AM  
1 : 3000



3 PROPOSED SHADOW PLANS - WINTER SOLSTICE - 11AM  
1 : 3000



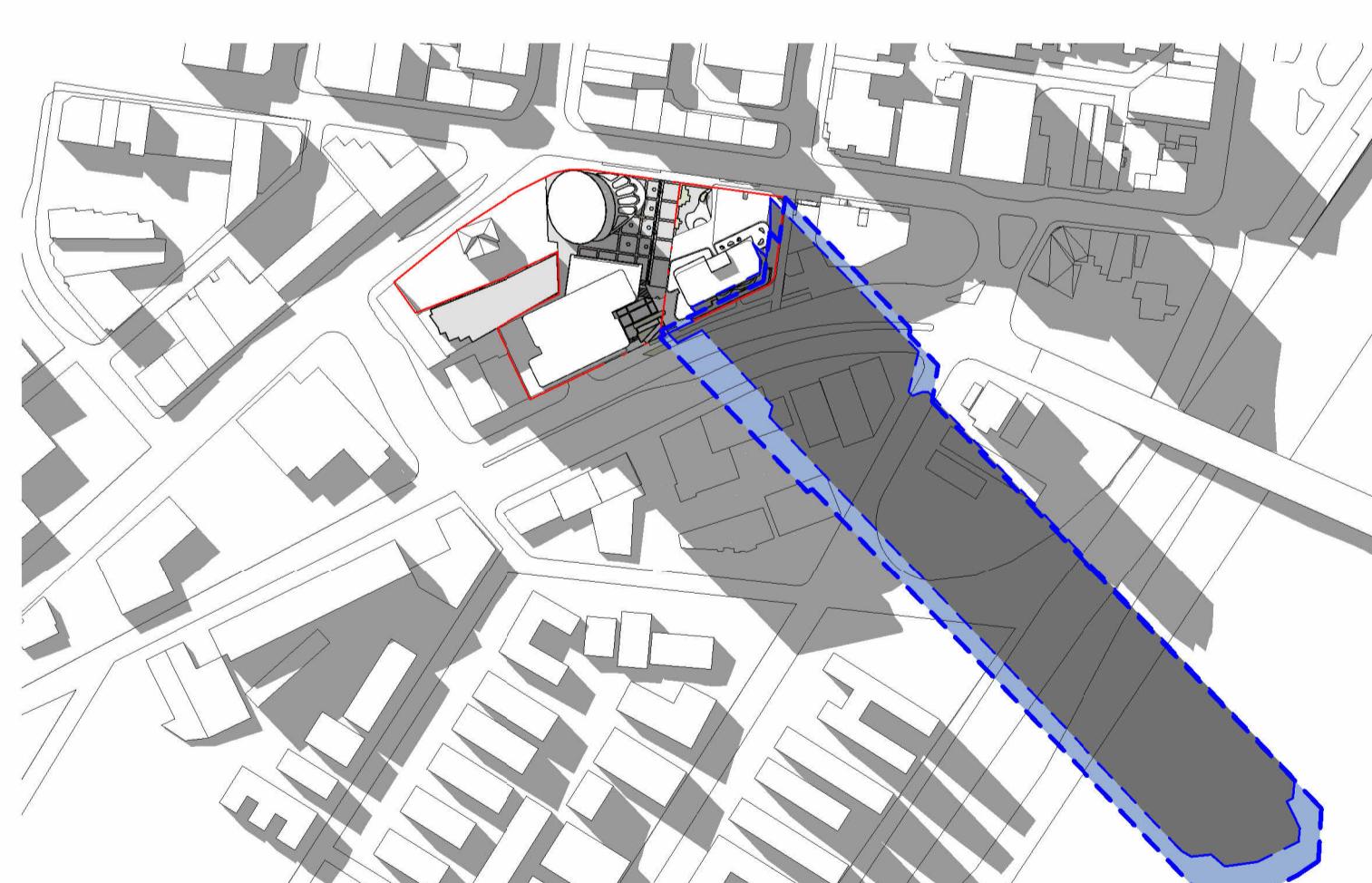
4 PROPOSED SHADOW PLANS - WINTER SOLSTICE - 12PM  
1 : 3000



5 PROPOSED SHADOW PLANS - WINTER SOLSTICE - 1PM  
1 : 3000



6 PROPOSED SHADOW PLANS - WINTER SOLSTICE - 2PM  
1 : 3000



7 PROPOSED SHADOW PLANS - WINTER SOLSTICE - 3PM  
1 : 3000



**SHADOW PLAN LEGEND**

- APPROVED SHADOW OUTLINE
- INCREASE IN SHADOW AREA
- REDUCTION IN SHADOW AREA

[Status] FOR APPROVAL  
 [Nom. Architect] NICK BANDOUNAS /8499  
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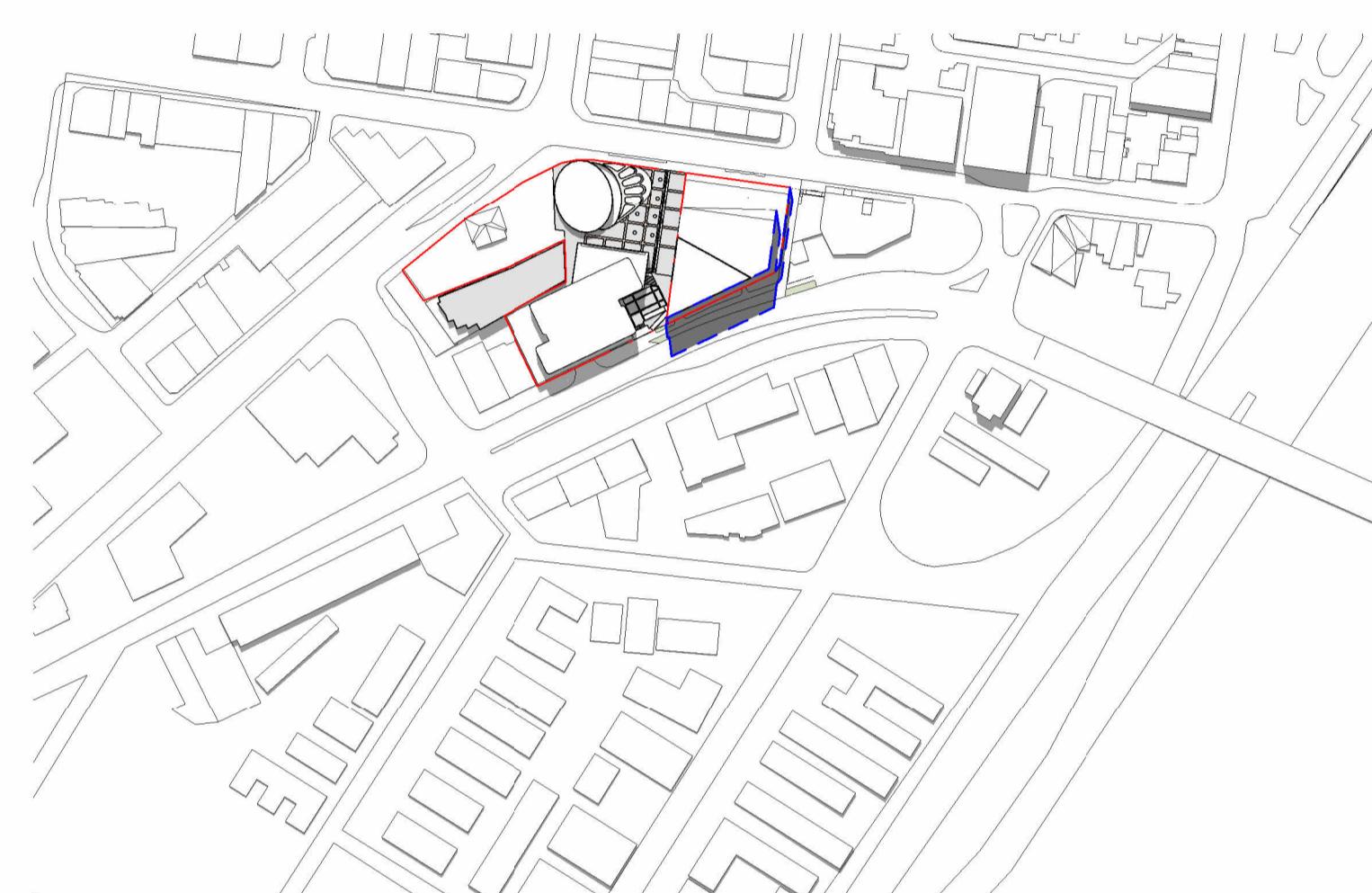
1 EXISTING SHADOW PLANS - SUMMER SOLSTICE - 9AM  
1 : 3000



2 EXISTING SHADOW PLANS - SUMMER SOLSTICE - 10AM  
1 : 3000



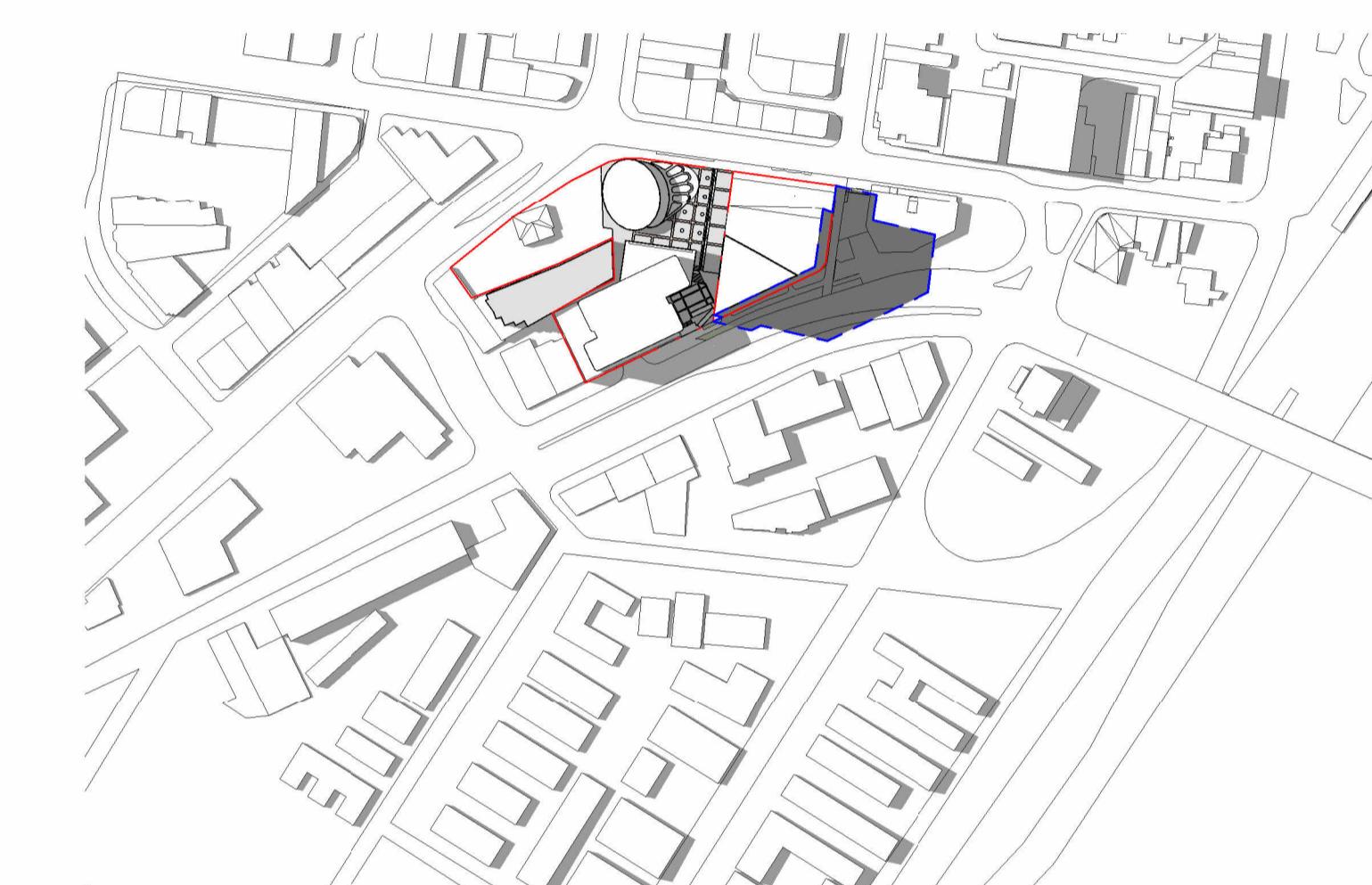
3 EXISTING SHADOW PLANS - SUMMER SOLSTICE - 11AM  
1 : 3000



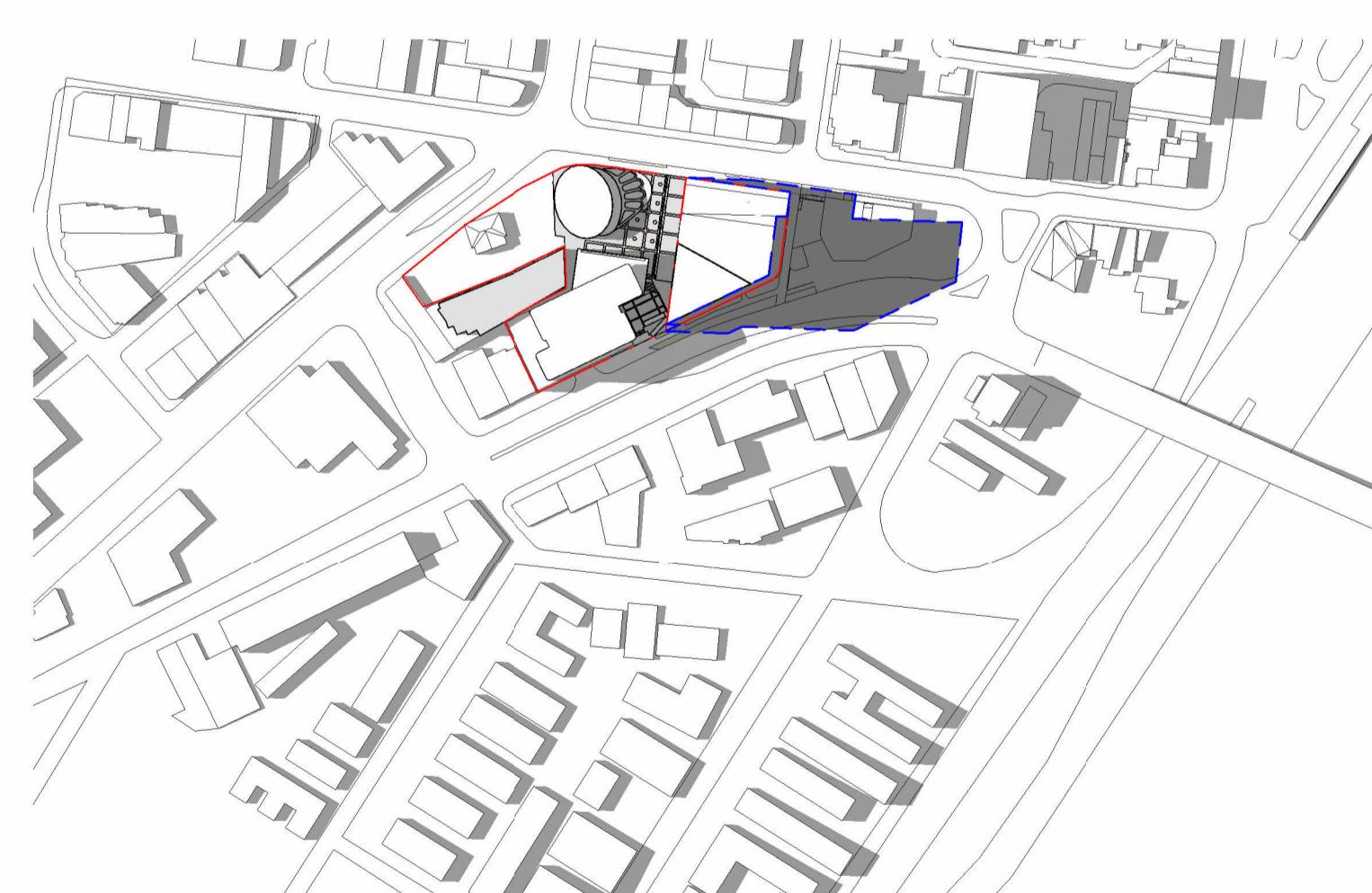
4 EXISTING SHADOW PLANS - SUMMER SOLSTICE - 12PM  
1 : 3000



5 EXISTING SHADOW PLANS - SUMMER SOLSTICE - 1PM  
1 : 3000



6 EXISTING SHADOW PLANS - SUMMER SOLSTICE - 2PM  
1 : 3000



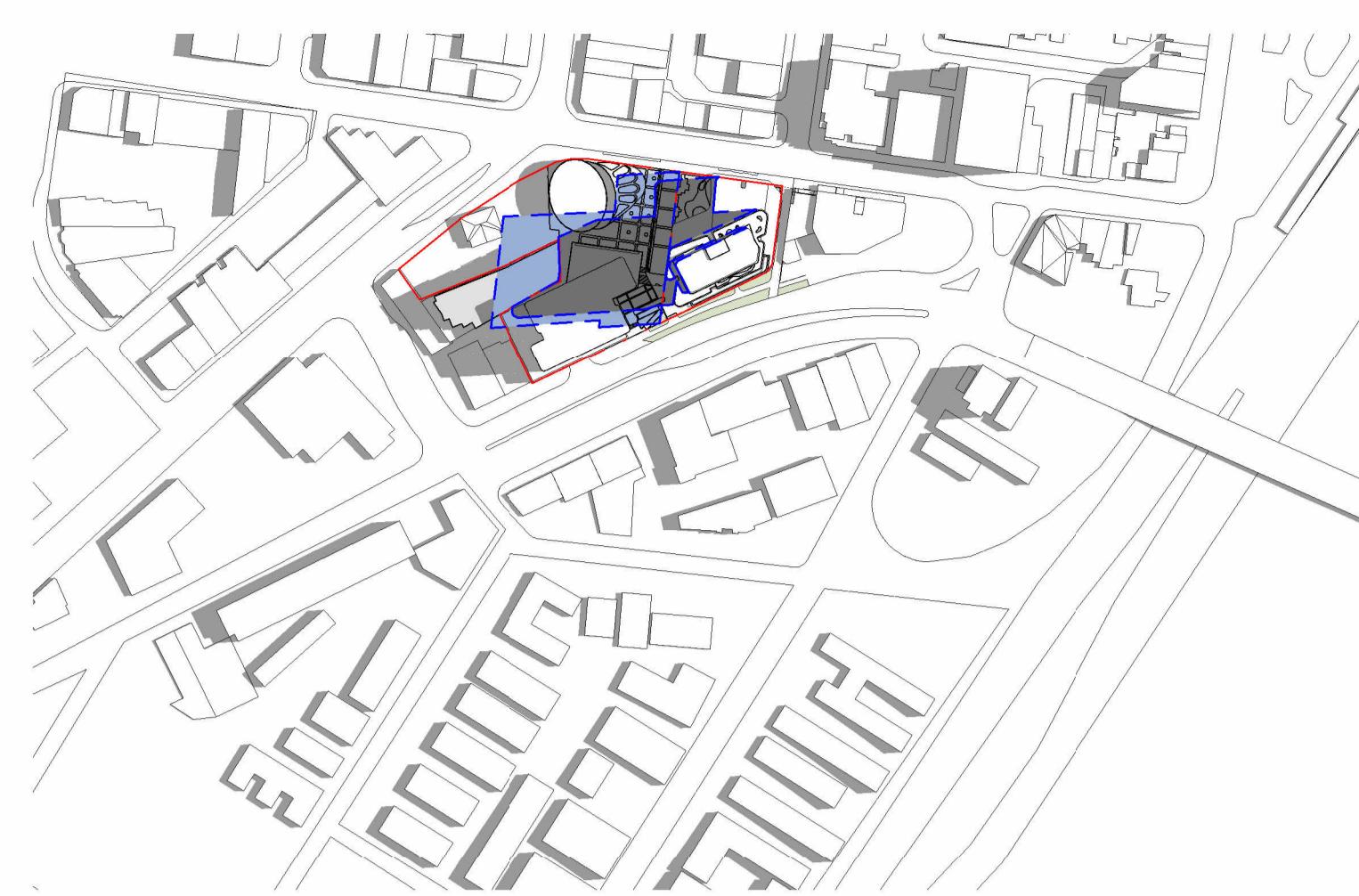
7 EXISTING SHADOW PLANS - SUMMER SOLSTICE - 3PM  
1 : 3000



#### SHADOW PLAN LEGEND

- APPROVED SHADOW OUTLINE
- INCREASE IN SHADOW AREA
- REDUCTION IN SHADOW AREA

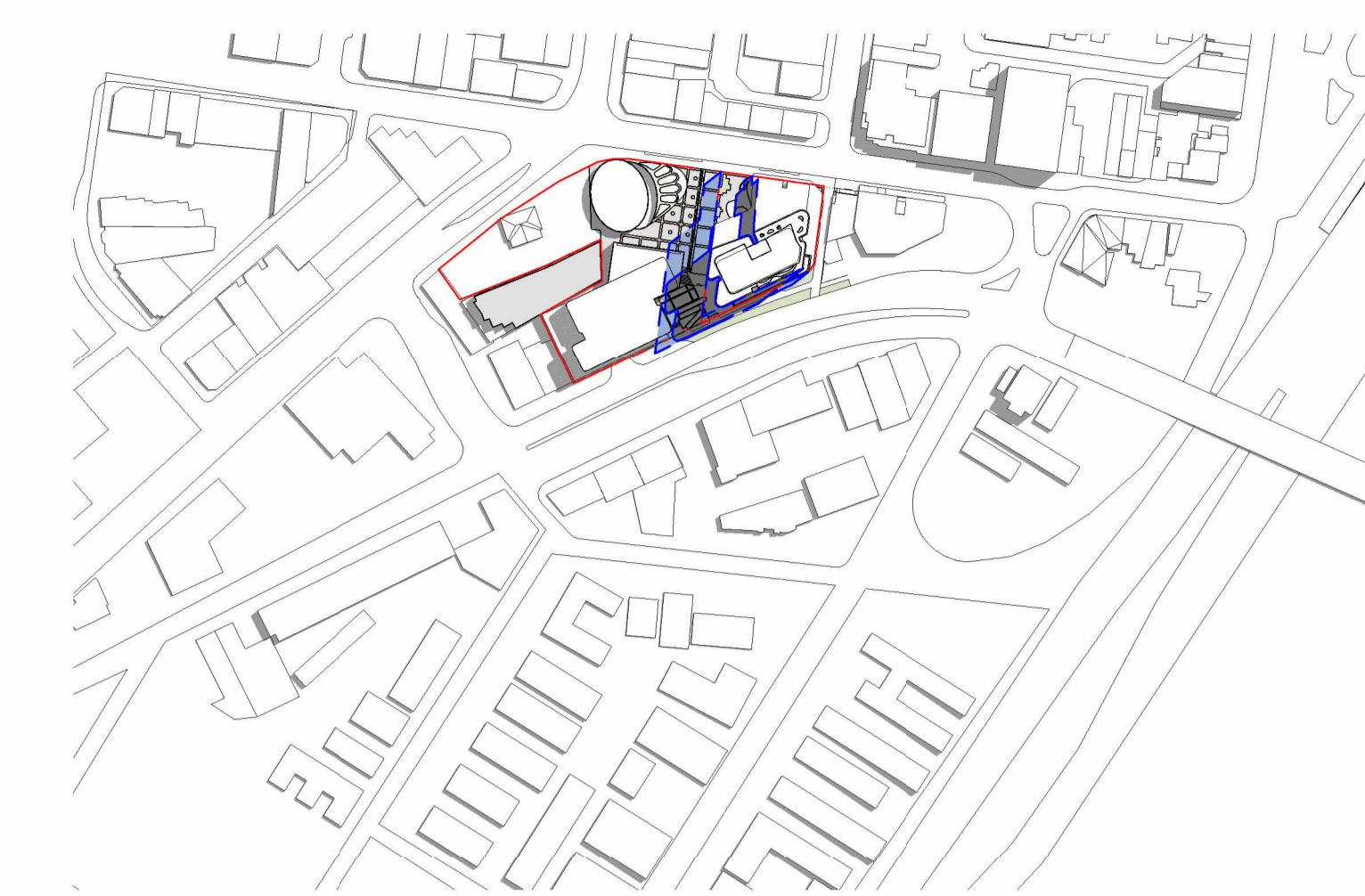
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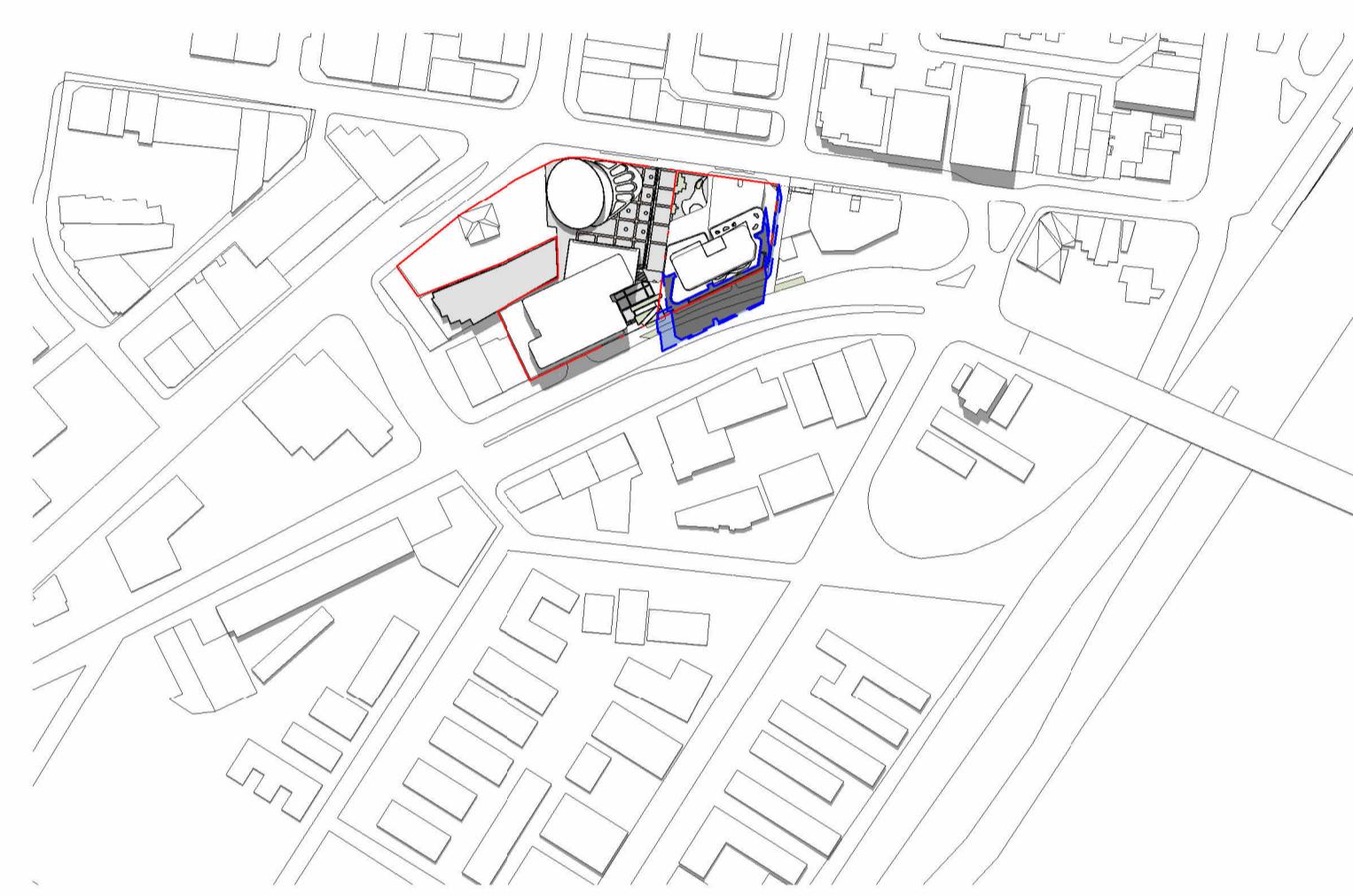
1 PROPOSED SHADOW PLANS - SUMMER SOLSTICE - 9AM  
1 : 3000



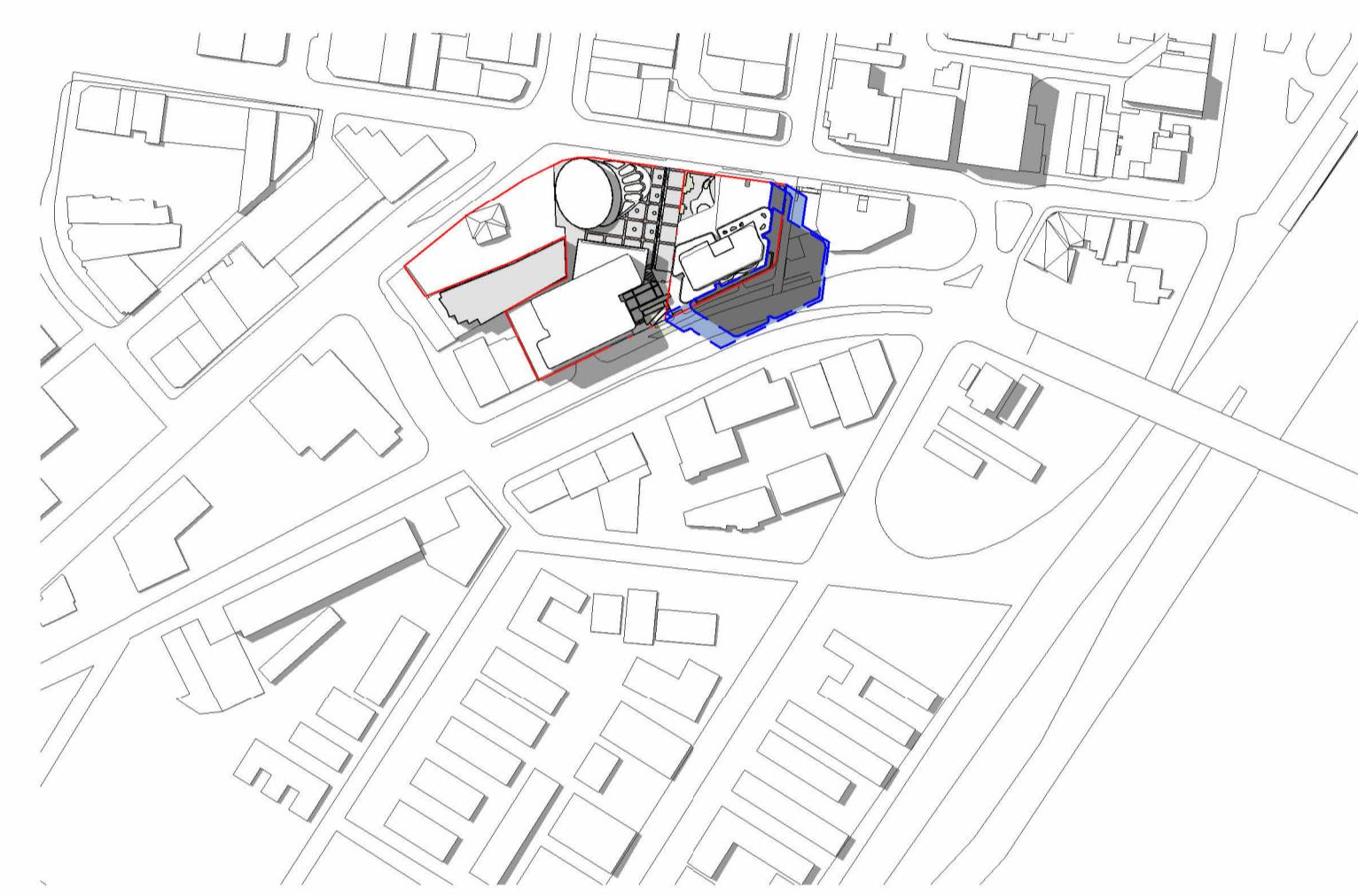
2 PROPOSED SHADOW PLANS - SUMMER SOLSTICE - 10AM  
1 : 3000



3 PROPOSED SHADOW PLANS - SUMMER SOLSTICE - 11AM  
1 : 3000



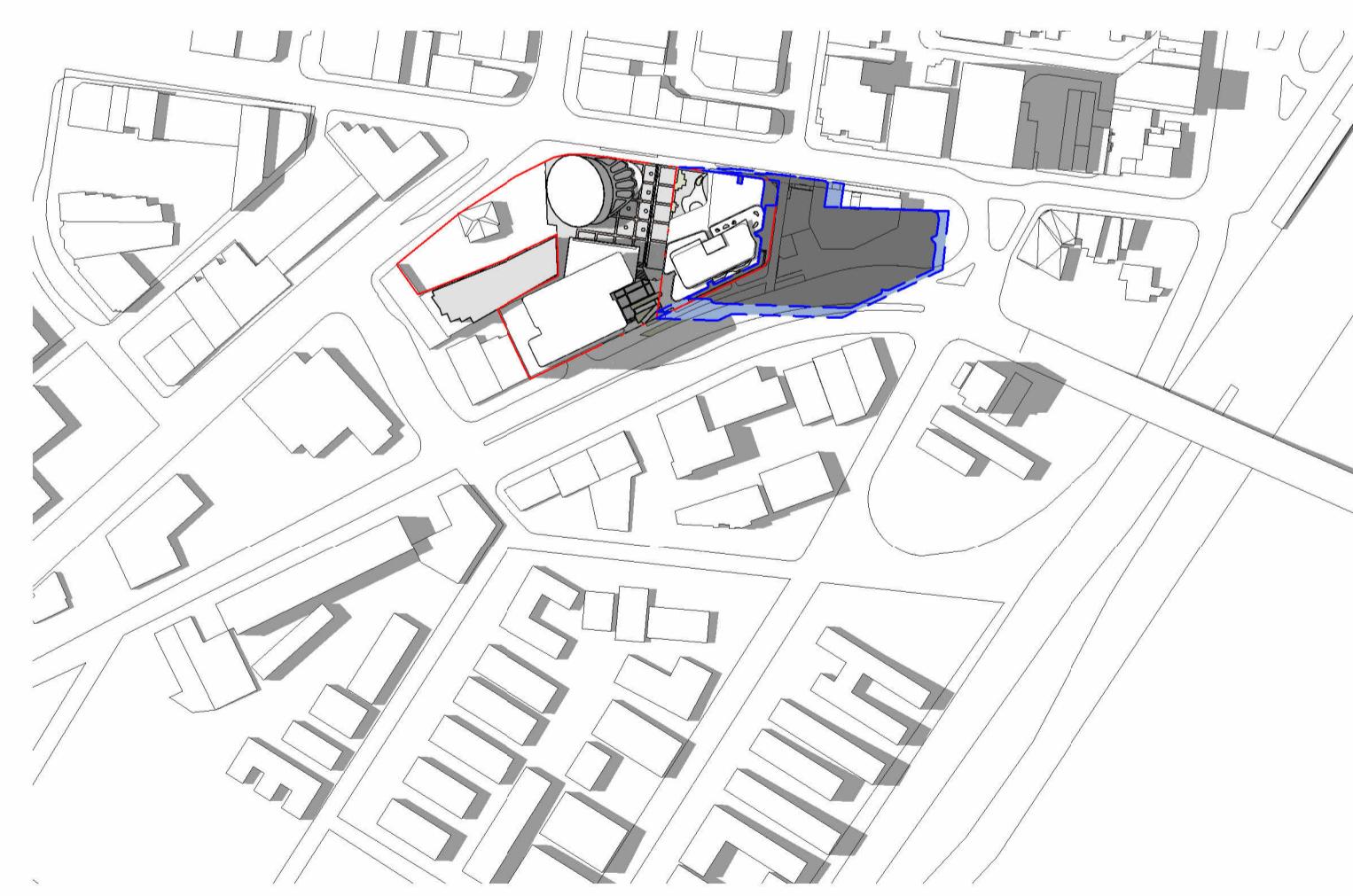
4 PROPOSED SHADOW PLANS - SUMMER SOLSTICE - 12PM  
1 : 3000



5 PROPOSED SHADOW PLANS - SUMMER SOLSTICE - 1PM  
1 : 3000



6 PROPOSED SHADOW PLANS - SUMMER SOLSTICE - 2PM  
1 : 3000



7 PROPOSED SHADOW PLANS - SUMMER SOLSTICE - 3PM  
1 : 3000



Certificate No. # 176VX2JMFZ

Scan QR code or follow website link for rating details.

Assessor name E-LAB Consulting  
 Accreditation No. DMN/20/1972  
 Property Address 52 Scott Street, Liverpool, NSW, 2170  
<https://www.fr5.com.au/QRCodeLanding?PublicId=176VX2JMFZ&GrpCert=1>

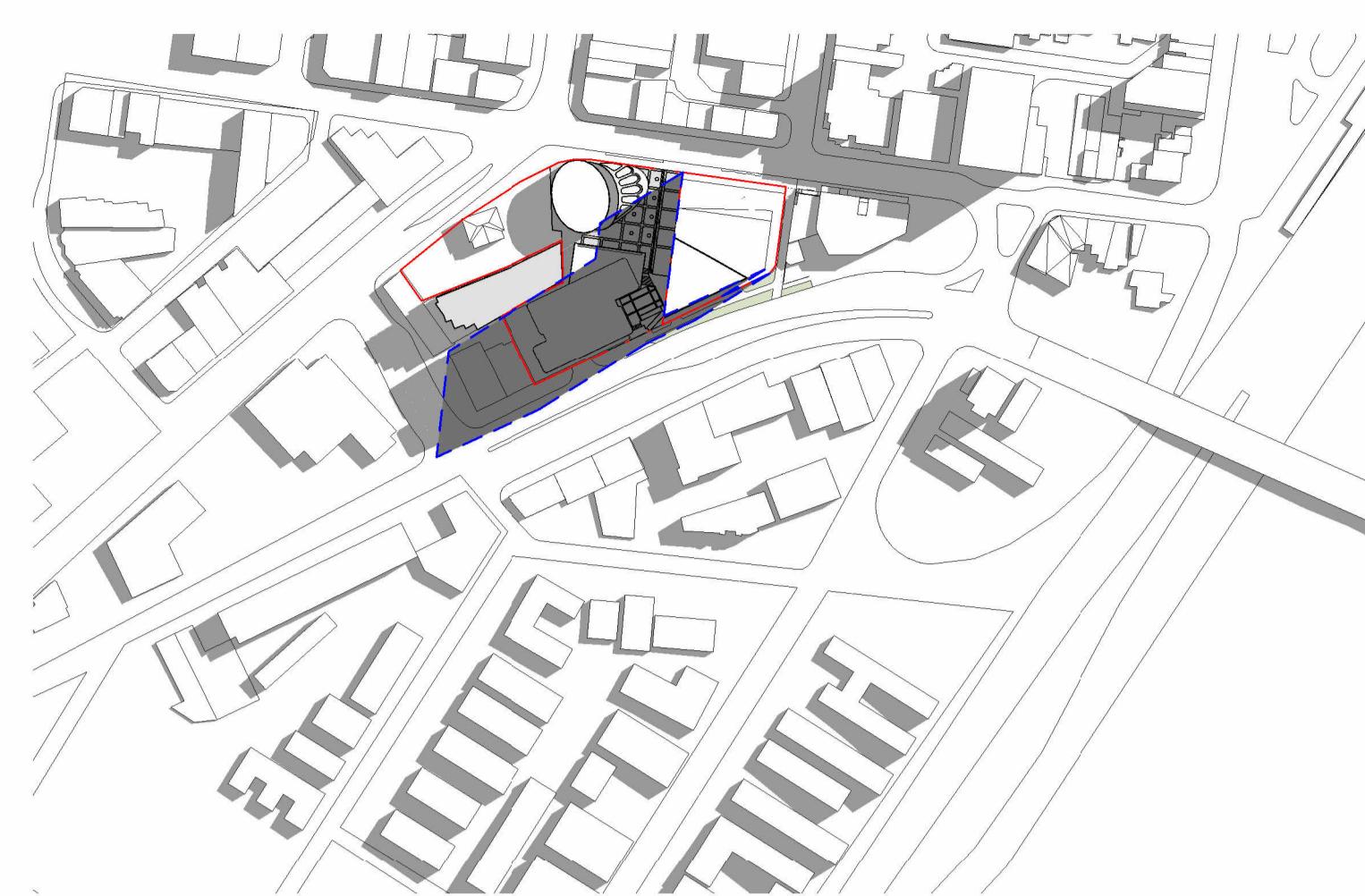
#### SHADOW PLAN LEGEND

APPROVED SHADOW OUTLINE

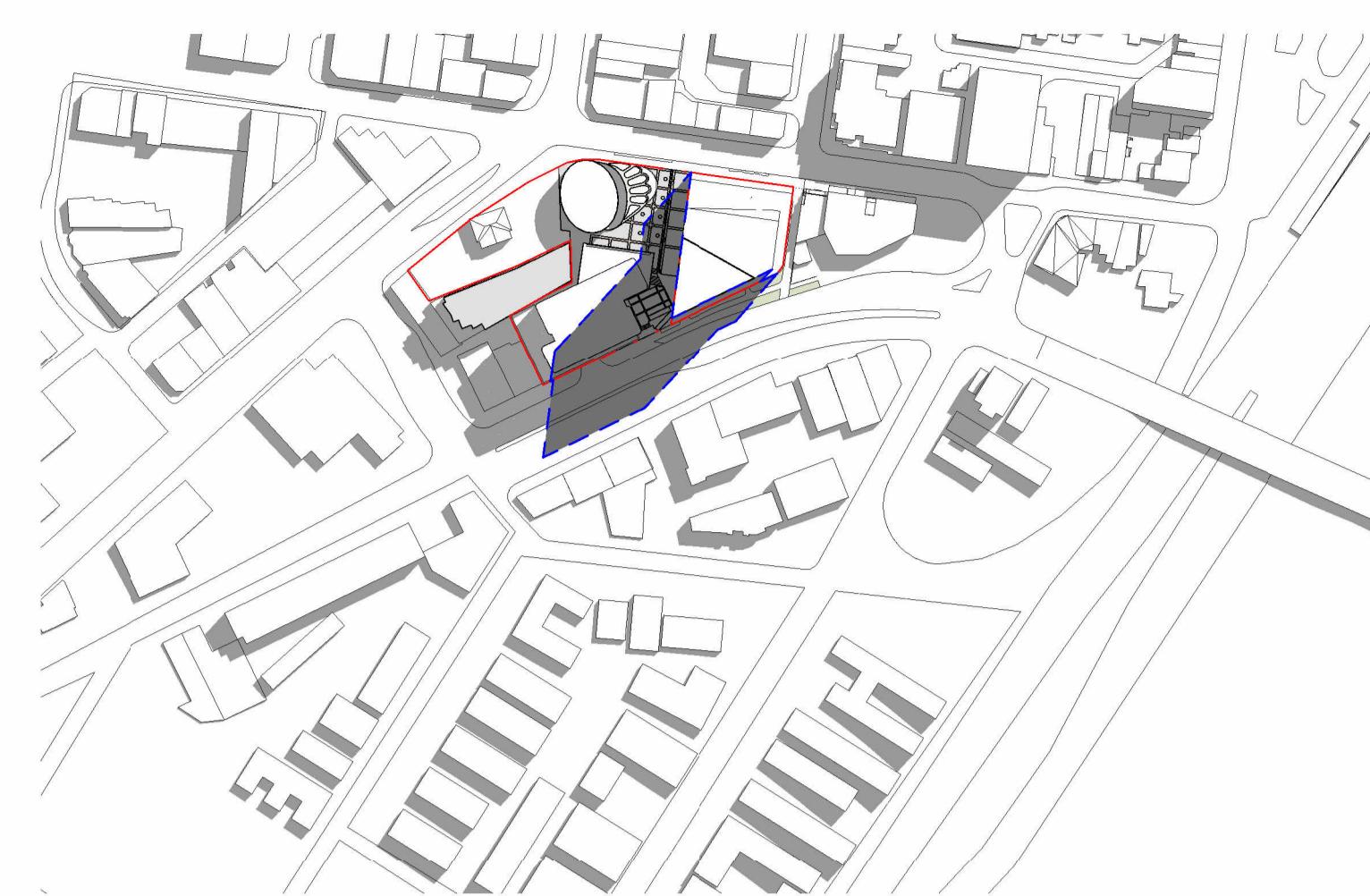
INCREASE IN SHADOW AREA

REDUCTION IN SHADOW AREA

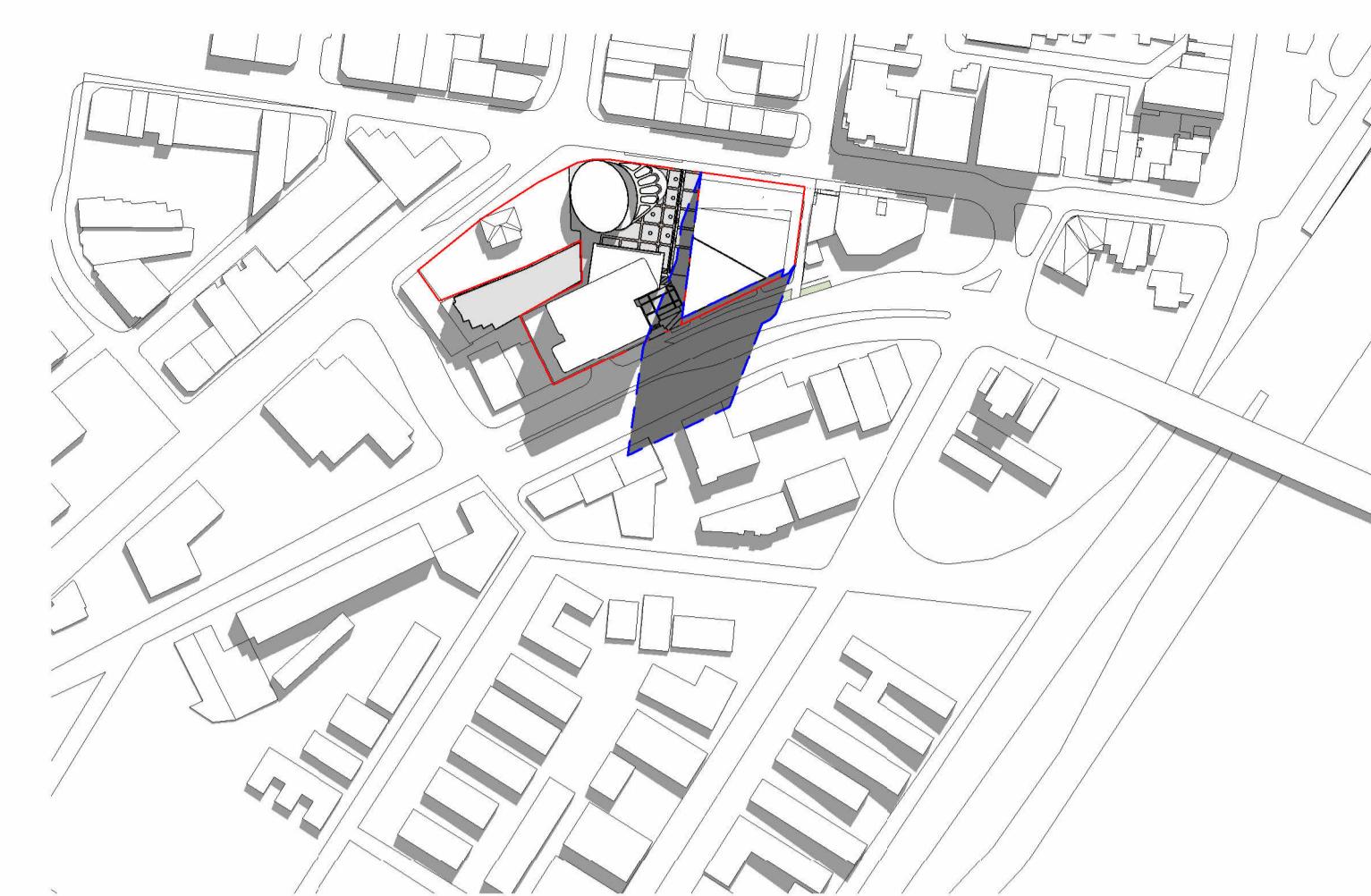
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1 EXISTING SHADOW PLANS - SPRING EQUINOX - 9AM  
1 : 3000



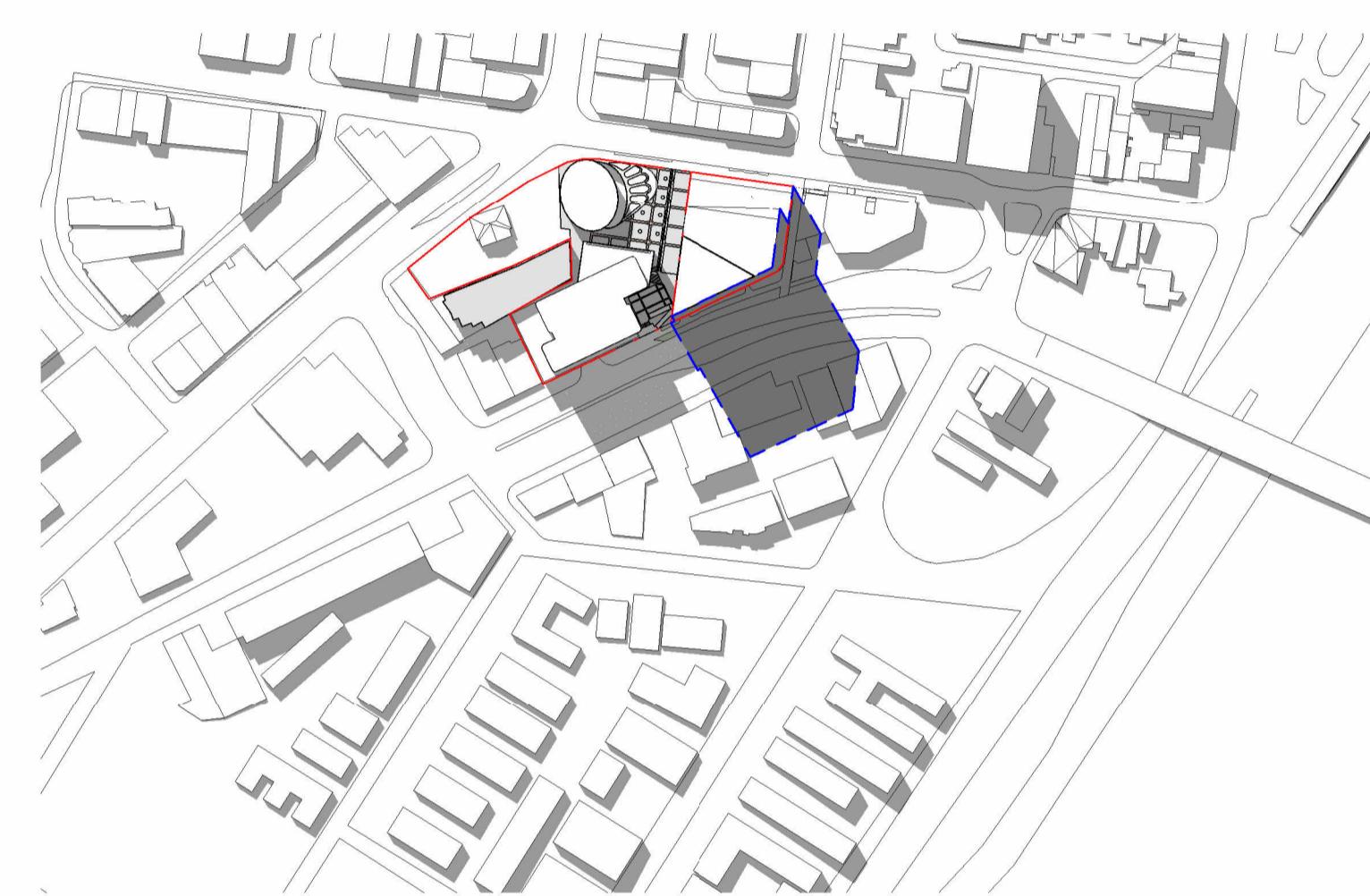
2 EXISTING SHADOW PLANS - SPRING EQUINOX - 10AM  
1 : 3000



3 EXISTING SHADOW PLANS - SPRING EQUINOX - 11AM  
1 : 3000



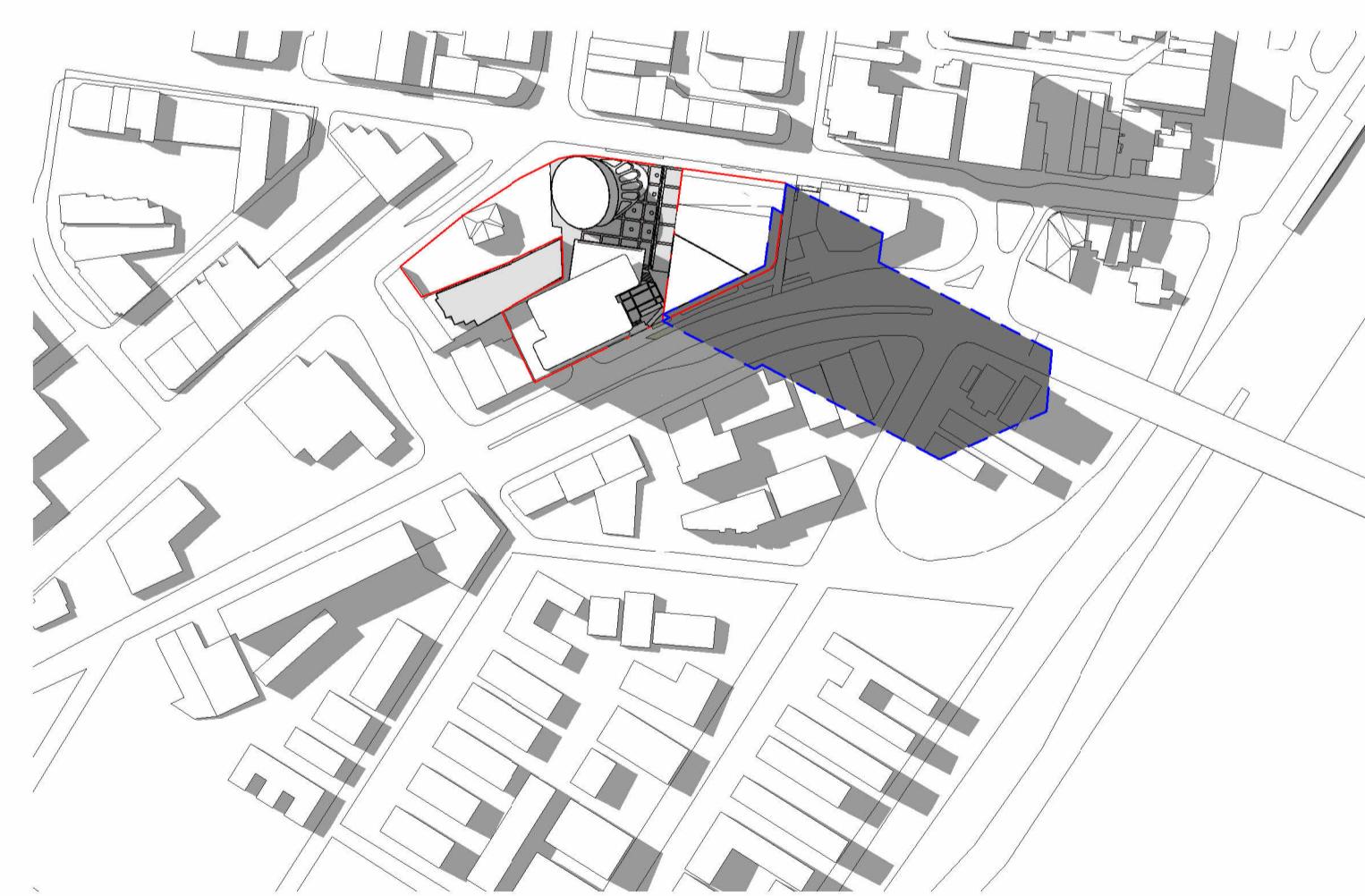
4 EXISTING SHADOW PLANS - SPRING EQUINOX - 12PM  
1 : 3000



5 EXISTING SHADOW PLANS - SPRING EQUINOX - 1PM  
1 : 3000



6 EXISTING SHADOW PLANS - SPRING EQUINOX - 2PM  
1 : 3000



7 EXISTING SHADOW PLANS - SPRING EQUINOX - 3PM  
1 : 3000



#### SHADOW PLAN LEGEND

- APPROVED SHADOW OUTLINE
- INCREASE IN SHADOW AREA
- REDUCTION IN SHADOW AREA

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 [Nom. Architect] NICK BANDOUNAS /8499  
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1 PROPOSED SHADOW PLANS - SPRING EQUINOX - 9AM  
1 : 3000



2 PROPOSED SHADOW PLANS - SPRING EQUINOX - 10AM  
1 : 3000



3 PROPOSED SHADOW PLANS - SPRING EQUINOX - 11AM  
1 : 3000



4 PROPOSED SHADOW PLANS - SPRING EQUINOX - 12PM  
1 : 3000



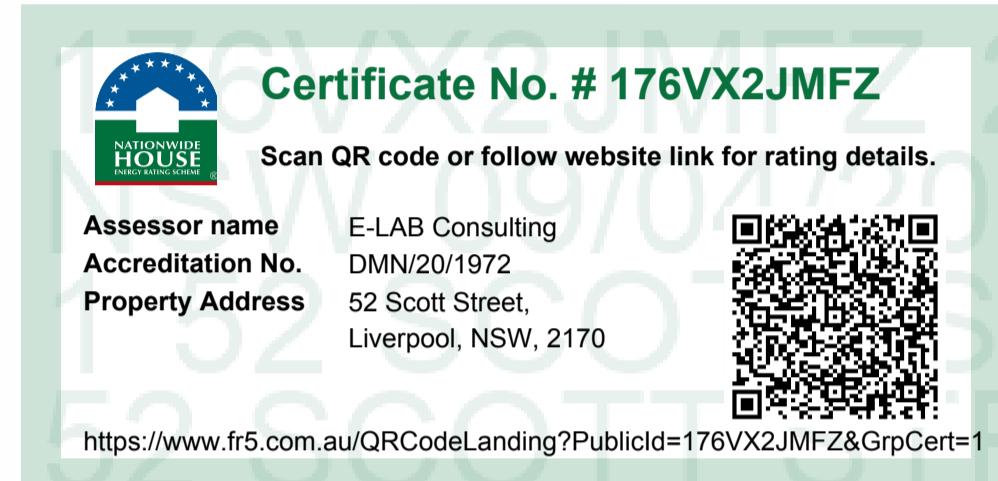
5 PROPOSED SHADOW PLANS - SPRING EQUINOX - 1PM  
1 : 3000



6 PROPOSED SHADOW PLANS - SPRING EQUINOX - 2PM  
1 : 3000

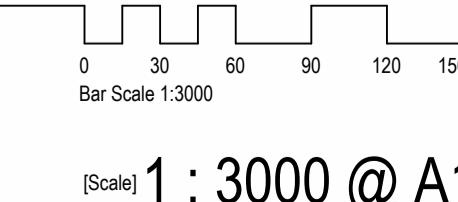


7 PROPOSED SHADOW PLANS - SPRING EQUINOX - 3PM  
1 : 3000

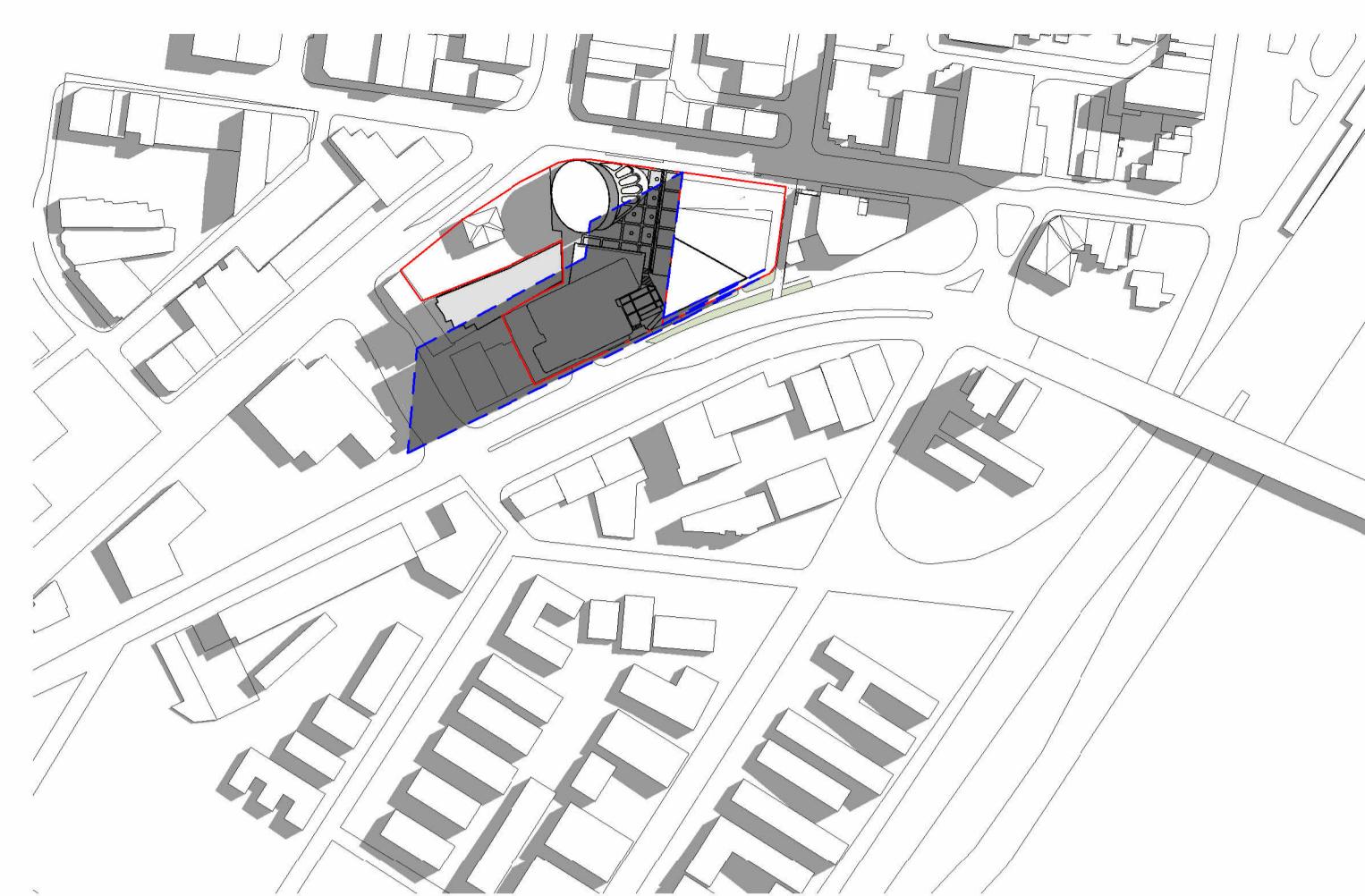


#### SHADOW PLAN LEGEND

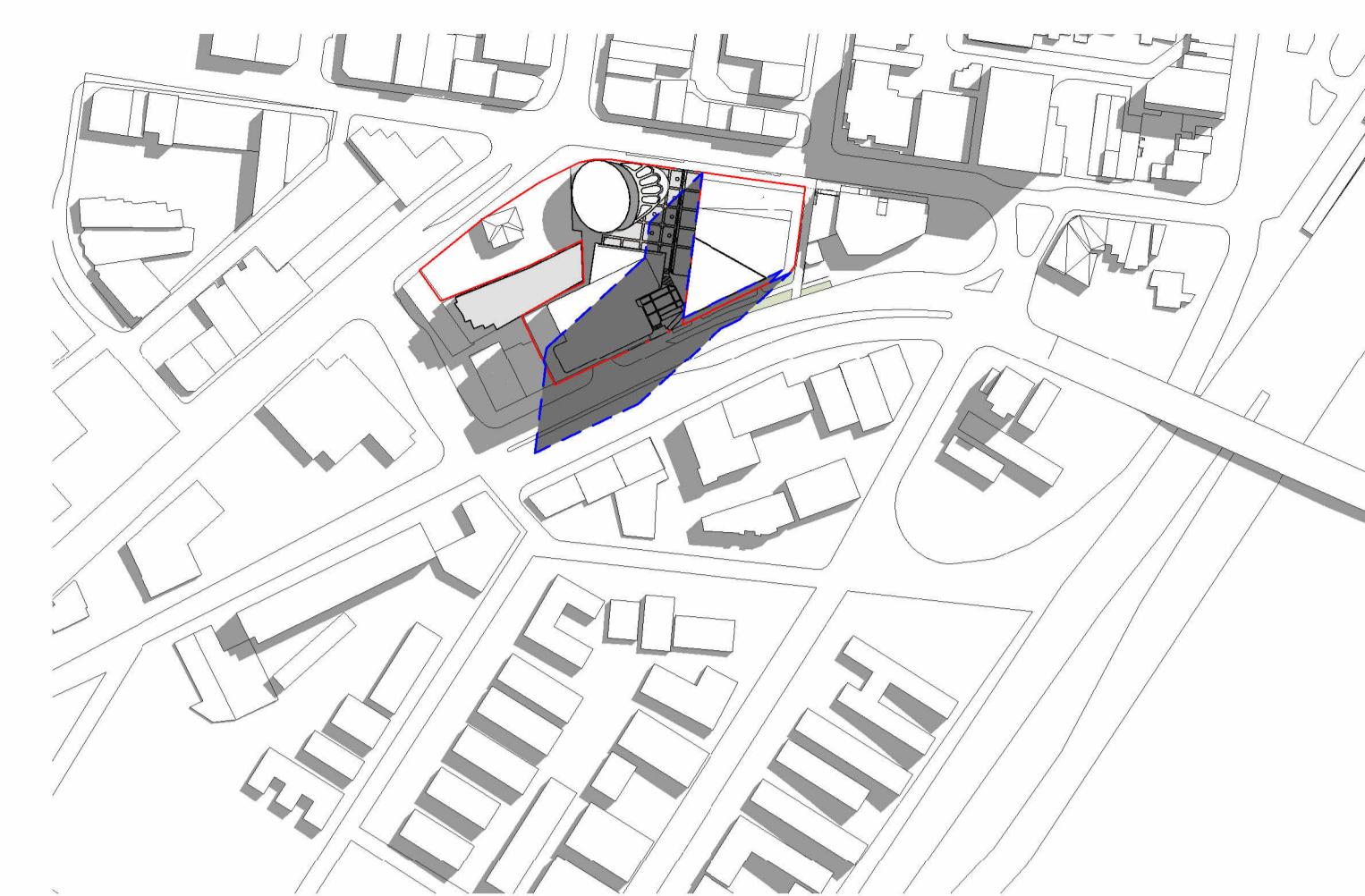
- APPROVED SHADOW OUTLINE
- INCREASE IN SHADOW AREA
- REDUCTION IN SHADOW AREA



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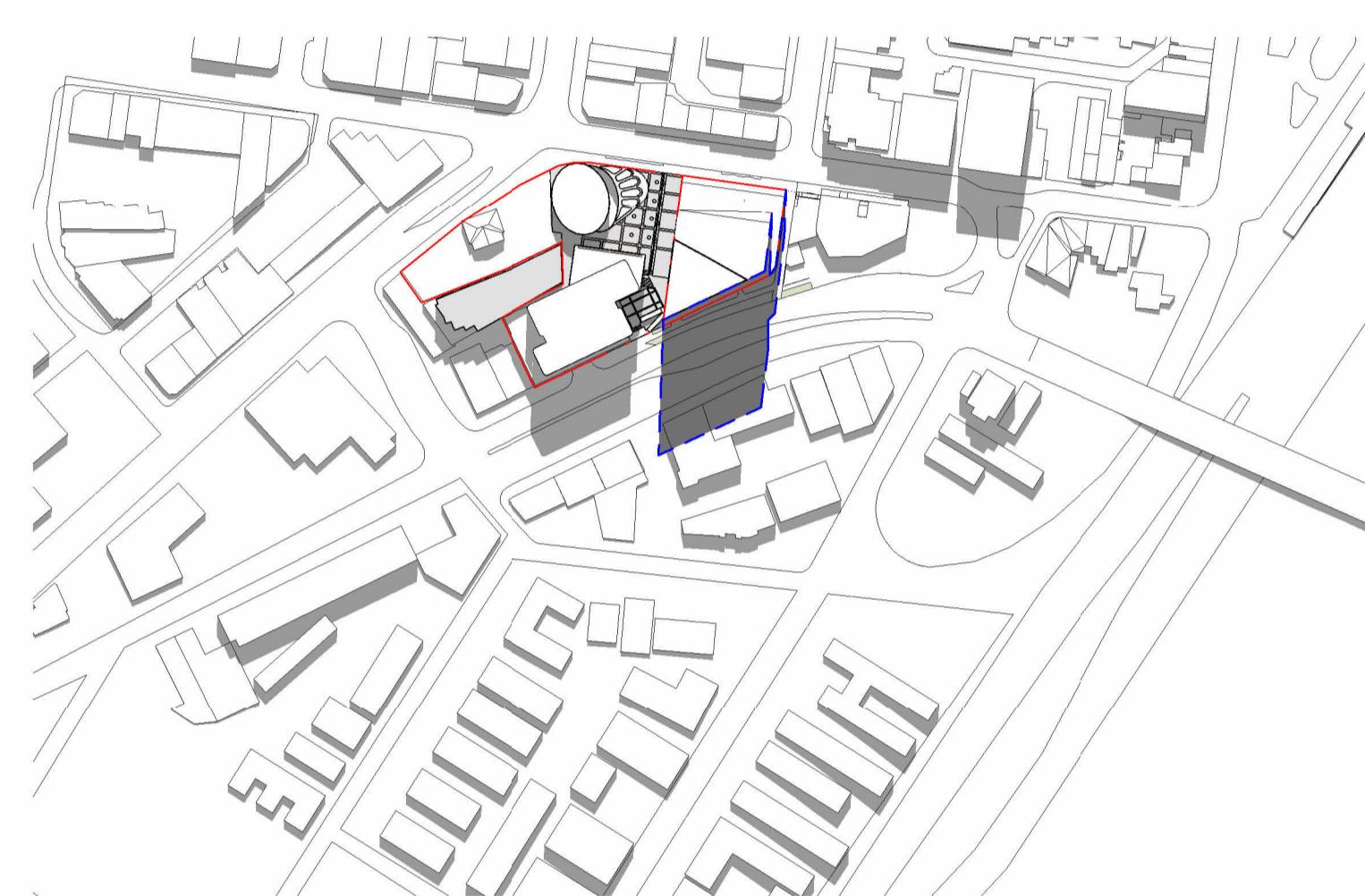
1 EXISTING SHADOW PLANS - AUTUMN EQUINOX - 9AM  
1 : 3000



2 EXISTING SHADOW PLANS - AUTUMN EQUINOX - 10AM  
1 : 3000



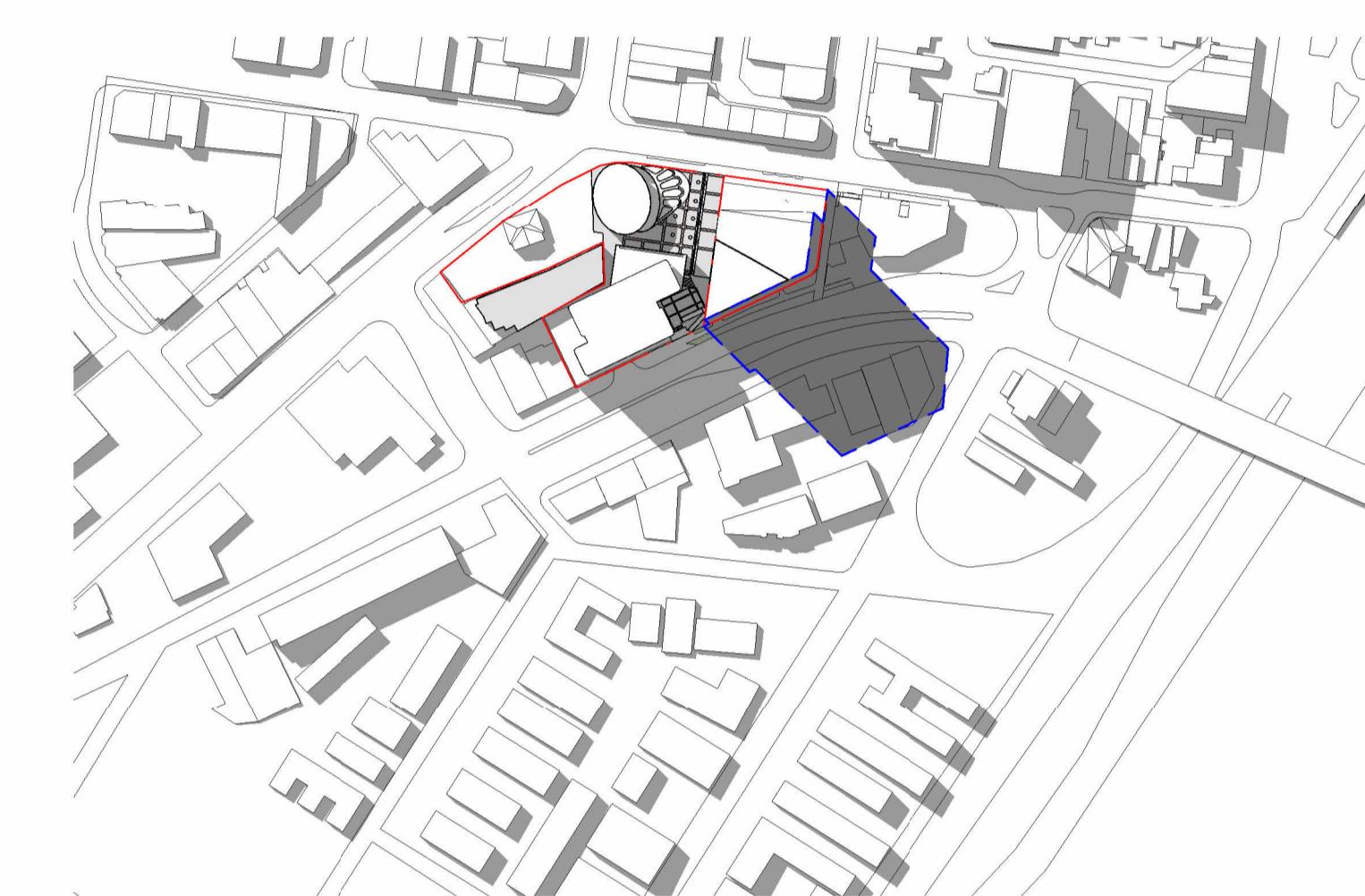
3 EXISTING SHADOW PLANS - AUTUMN EQUINOX - 11AM  
1 : 3000



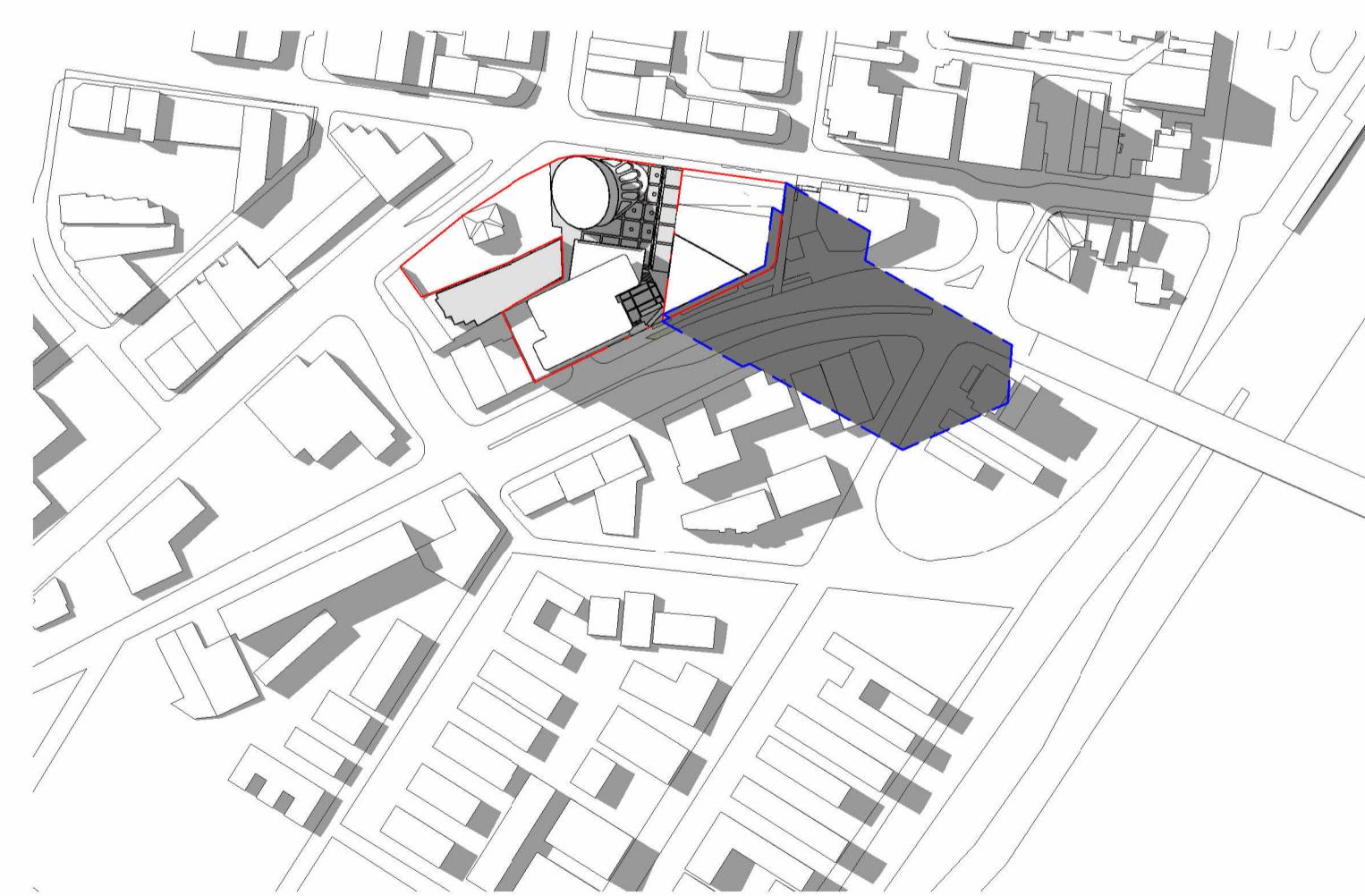
4 EXISTING SHADOW PLANS - AUTUMN EQUINOX - 12PM  
1 : 3000



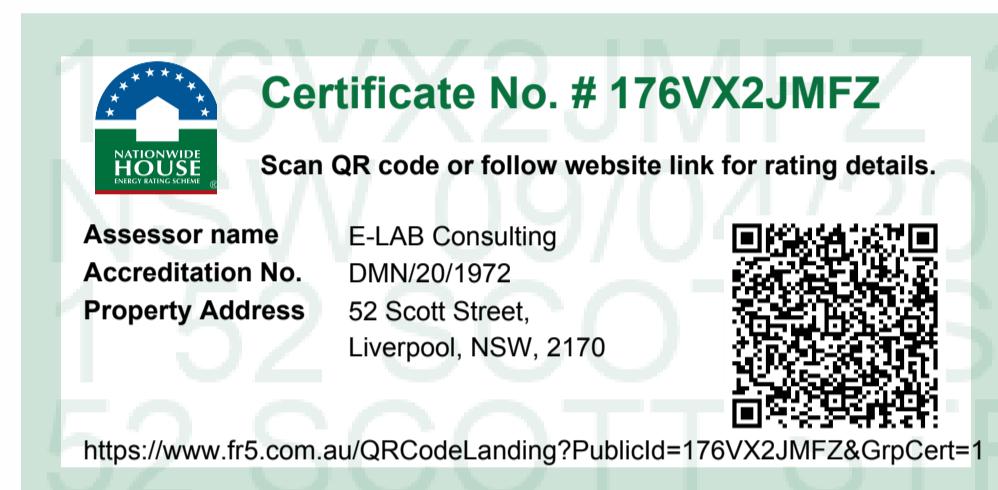
5 EXISTING SHADOW PLANS - AUTUMN EQUINOX - 1PM  
1 : 3000



6 EXISTING SHADOW PLANS - AUTUMN EQUINOX - 2PM  
1 : 3000



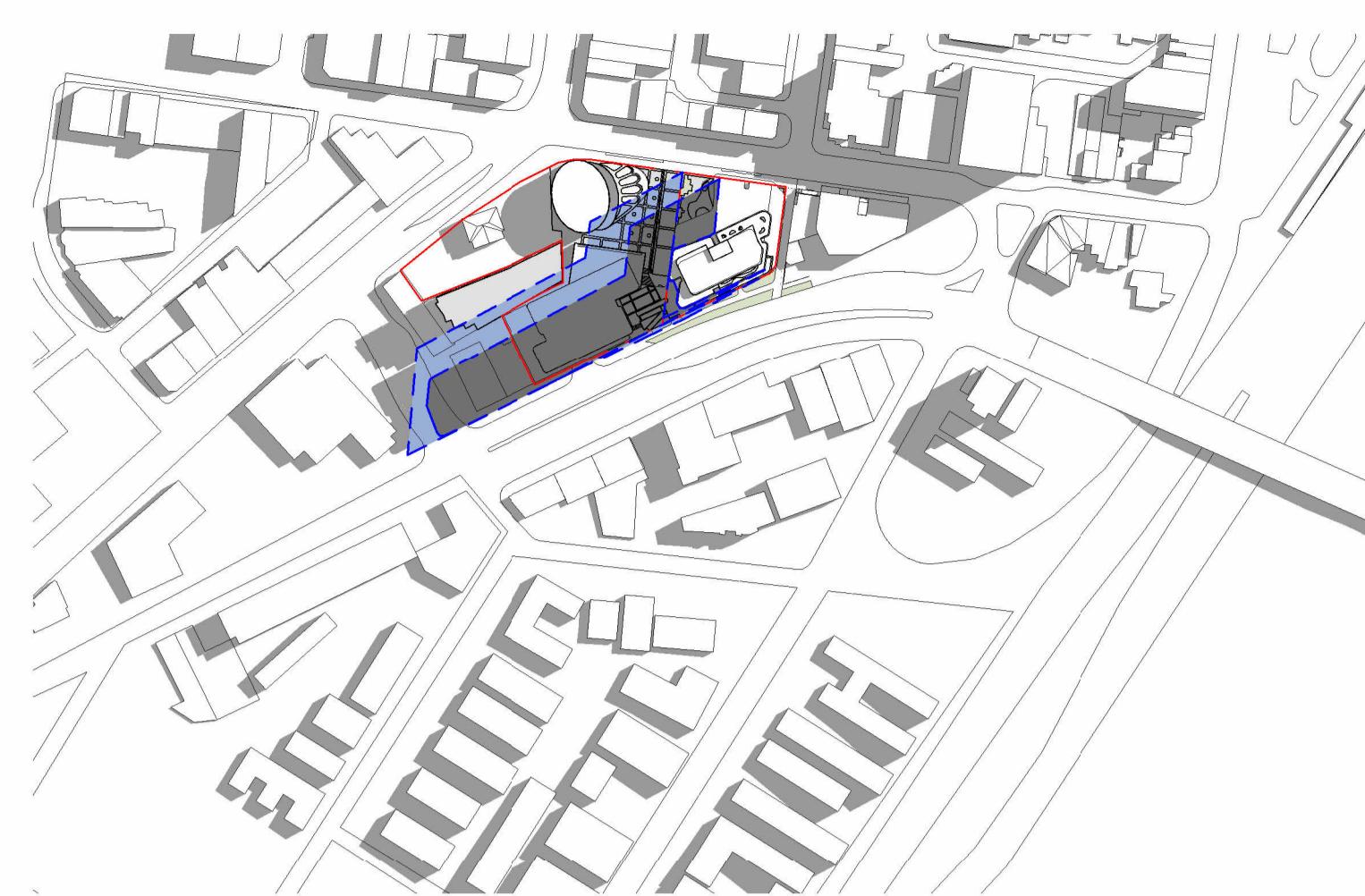
7 EXISTING SHADOW PLANS - AUTUMN EQUINOX - 3PM  
1 : 3000



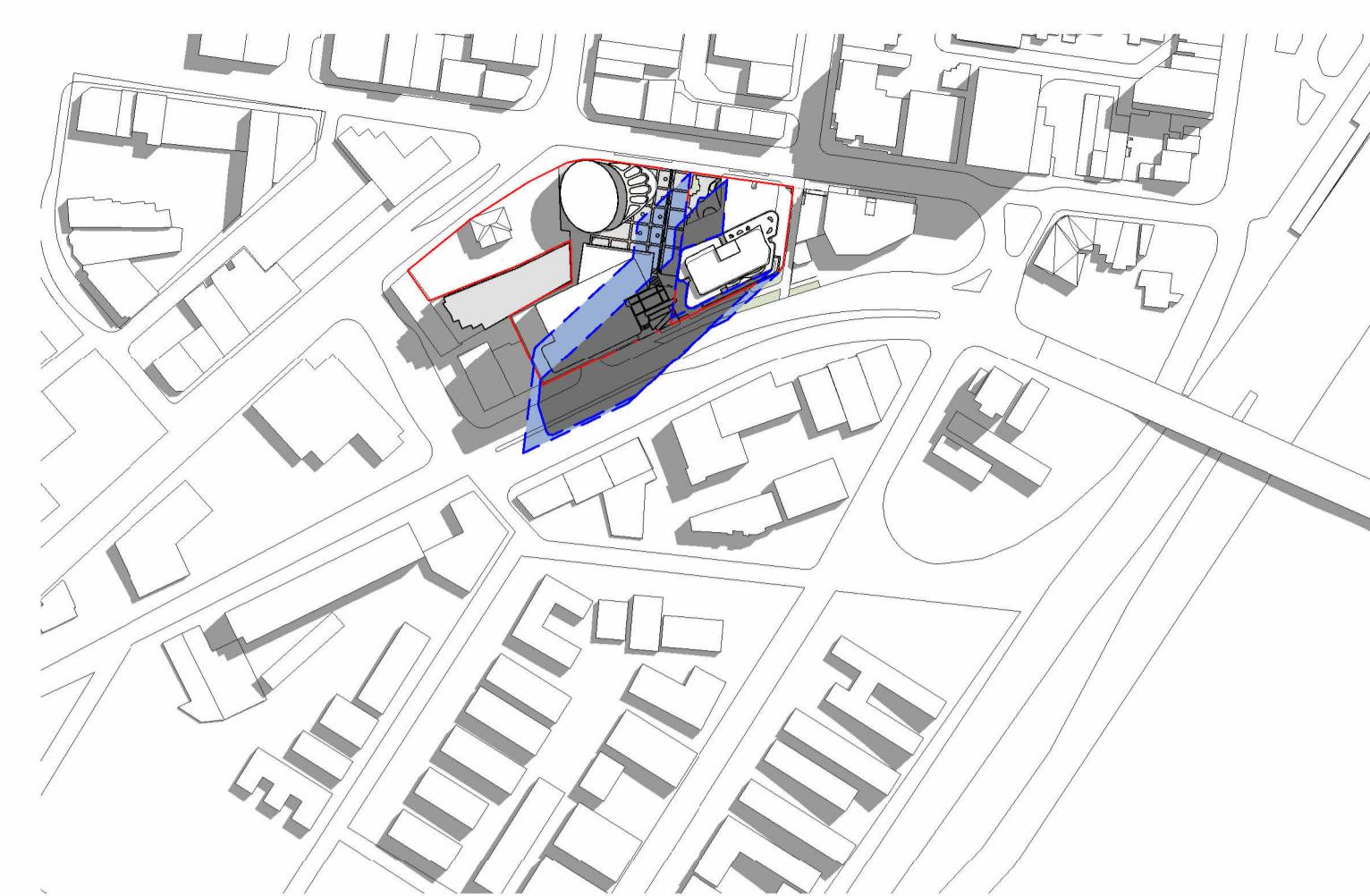
#### SHADOW PLAN LEGEND

- APPROVED SHADOW OUTLINE
- INCREASE IN SHADOW AREA
- REDUCTION IN SHADOW AREA

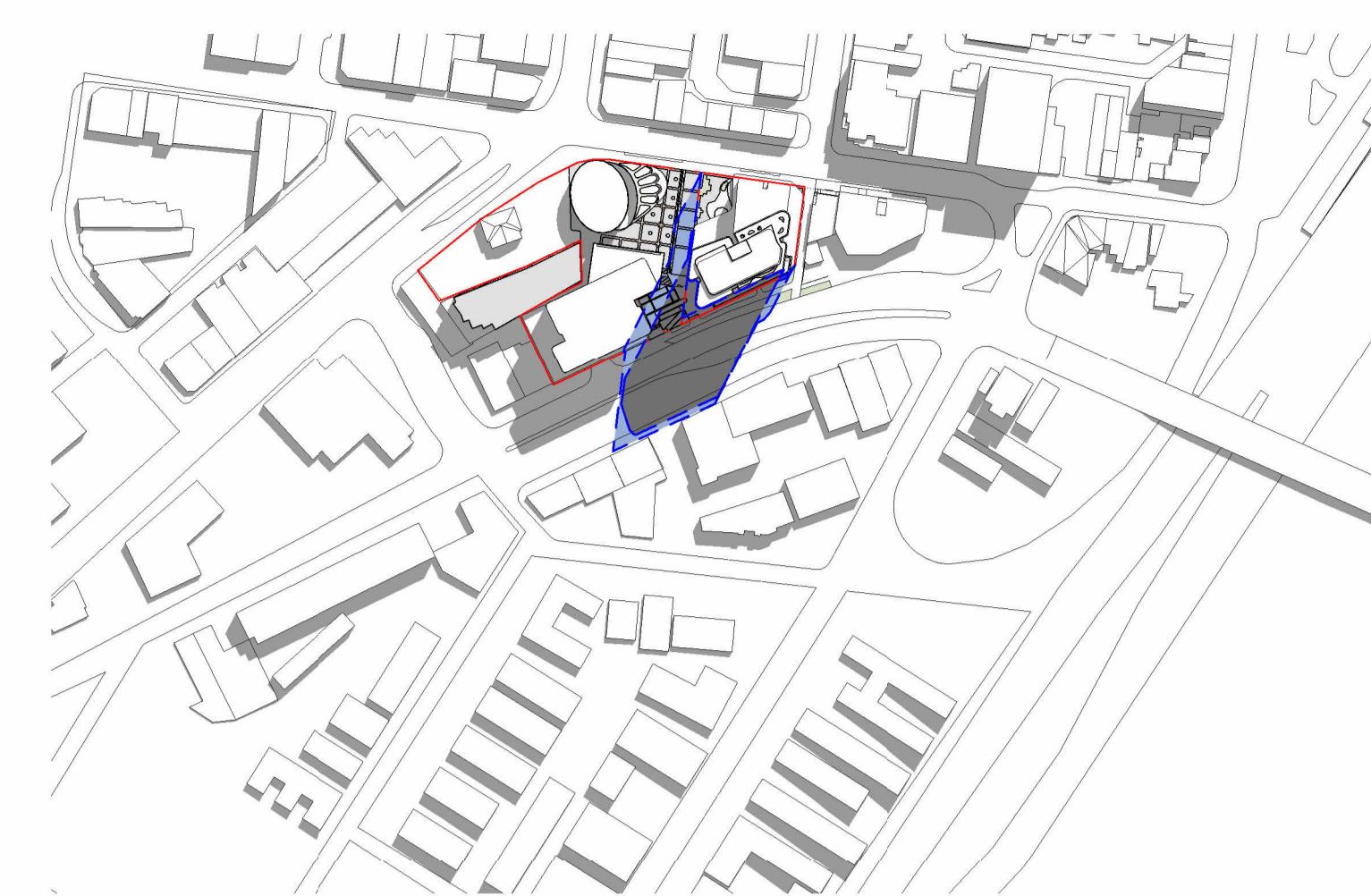
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1 PROPOSED SHADOW PLANS - AUTUMN EQUINOX - 9AM  
1 : 3000



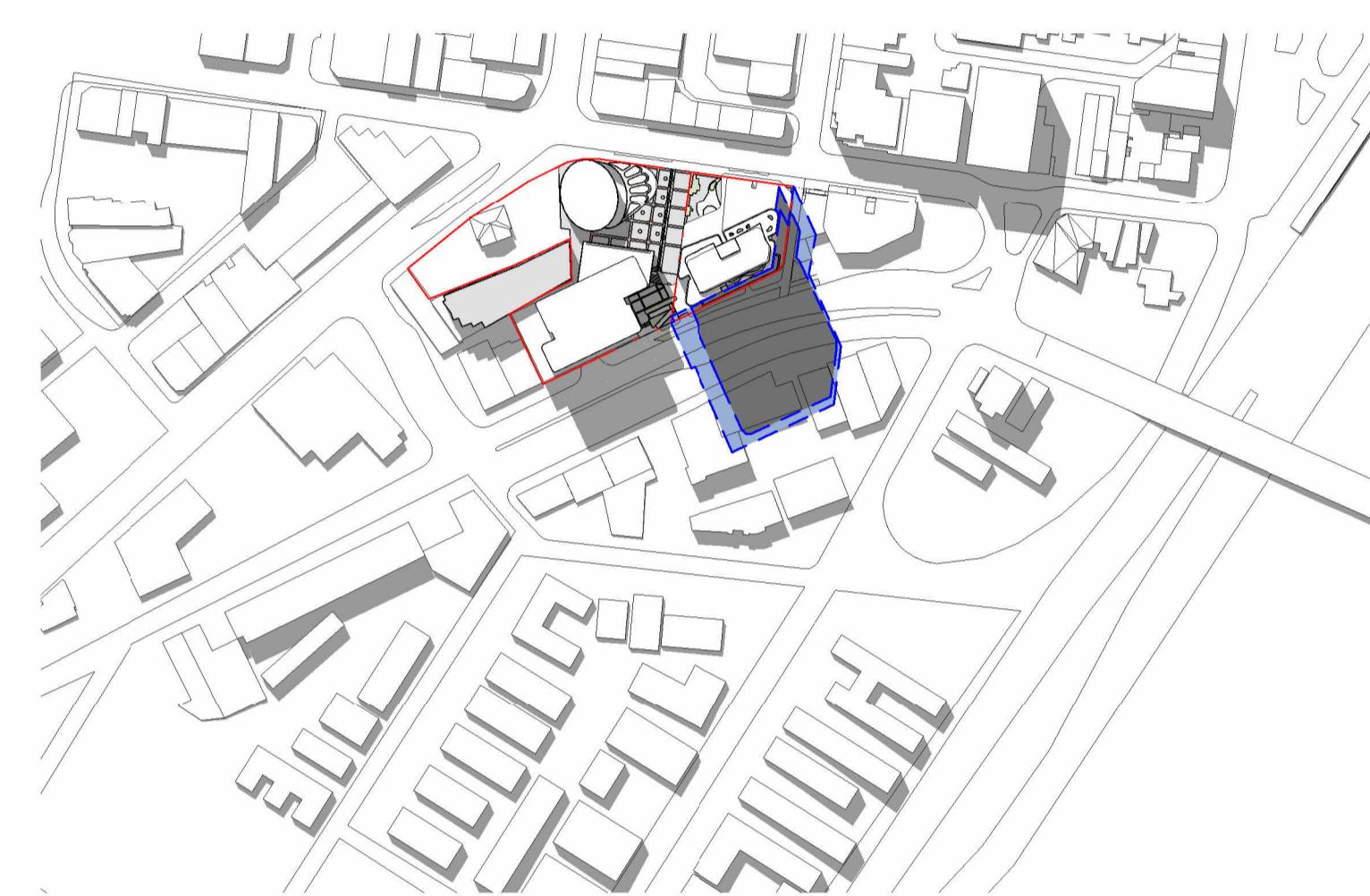
2 PROPOSED SHADOW PLANS - AUTUMN EQUINOX - 10AM  
1 : 3000



3 PROPOSED SHADOW PLANS - AUTUMN EQUINOX - 11AM  
1 : 3000



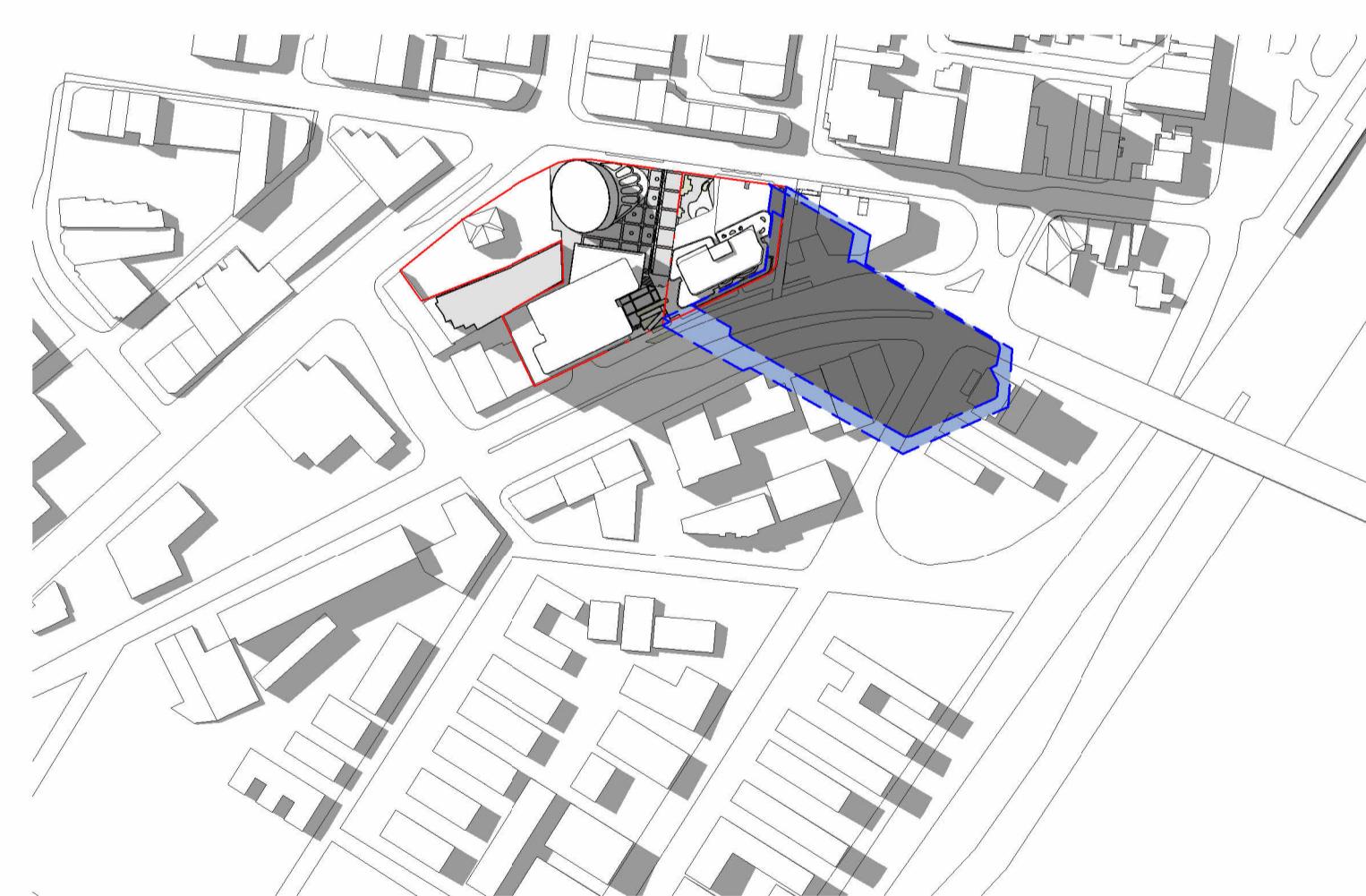
4 PROPOSED SHADOW PLANS - AUTUMN EQUINOX - 12PM  
1 : 3000



5 PROPOSED SHADOW PLANS - AUTUMN EQUINOX - 1PM  
1 : 3000



6 PROPOSED SHADOW PLANS - AUTUMN EQUINOX - 2PM  
1 : 3000



7 PROPOSED SHADOW PLANS - AUTUMN EQUINOX - 3PM  
1 : 3000



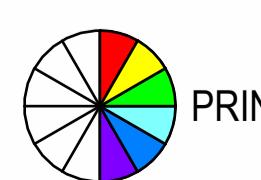
#### SHADOW PLAN LEGEND

- APPROVED SHADOW OUTLINE
- INCREASE IN SHADOW AREA
- REDUCTION IN SHADOW AREA

Bar Scale 1:3000  
0 30 60 90 120 150 m  
[Scale] 1 : 3000 @ A1

**scott  
carver**

Level One, One Chifley Square Sydney NSW 2000 Australia  
www.scottcarver.com.au +61 2 9957 3988



PRINT IN COLOUR

[Project] LIVERPOOL CIVIC PLACE - PHASE B  
[Client] BUILT DEVELOPMENT GROUP

PROPOSED SHADOW PLANS - AUTUMN EQUINOX  
[Ref] 20230059 [Dwg No] AR-DRW-80\_035 [Rev] A

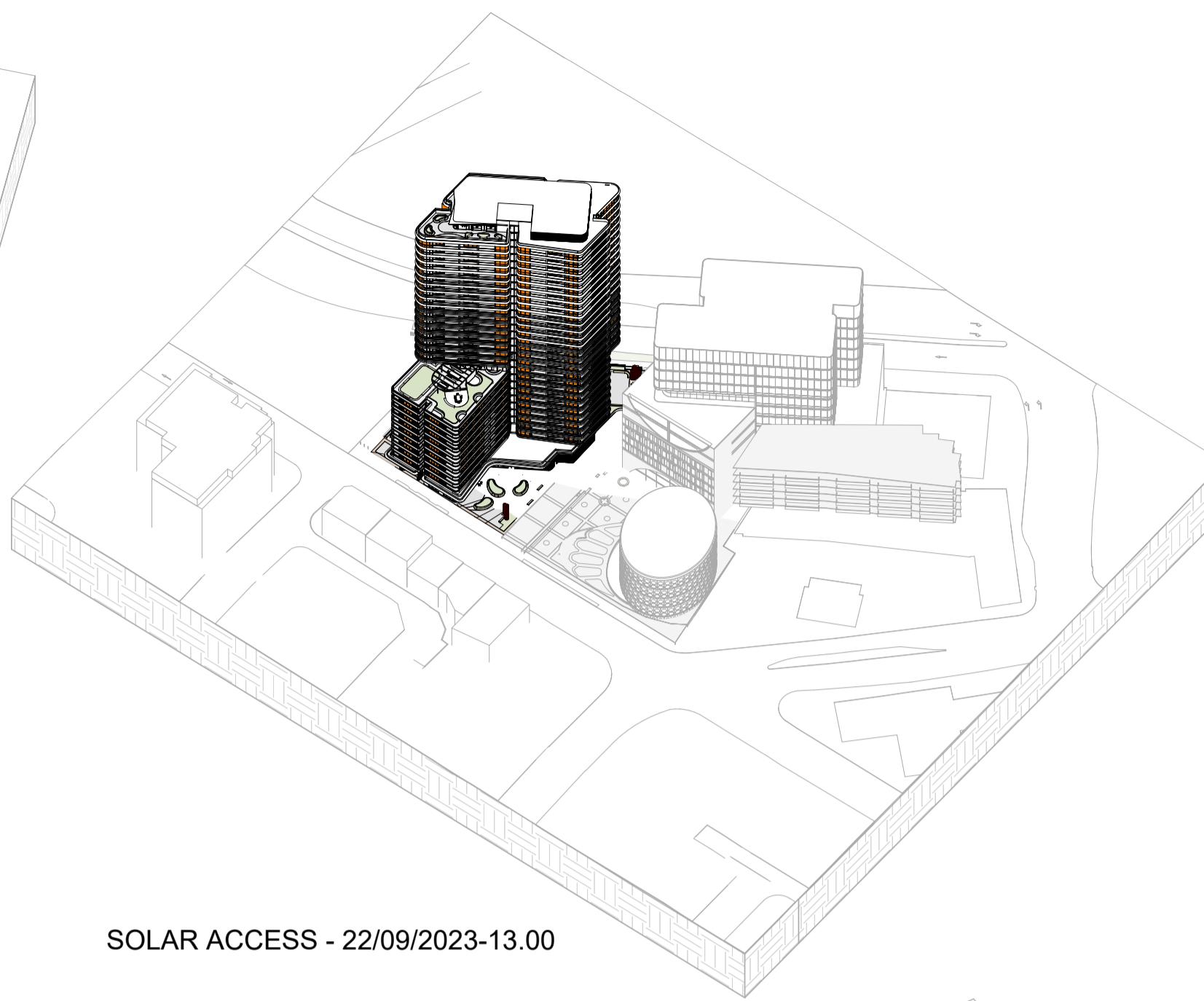
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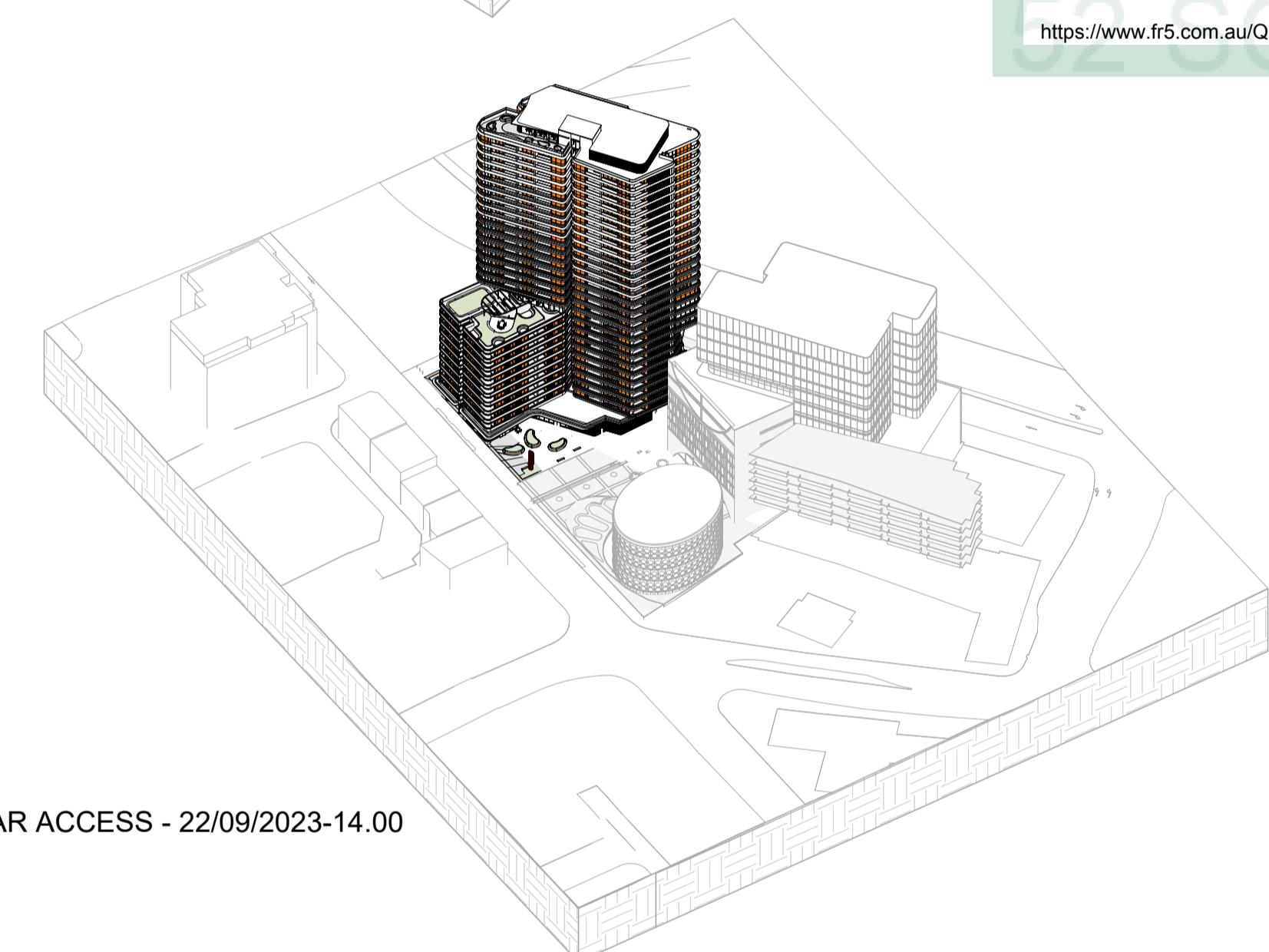
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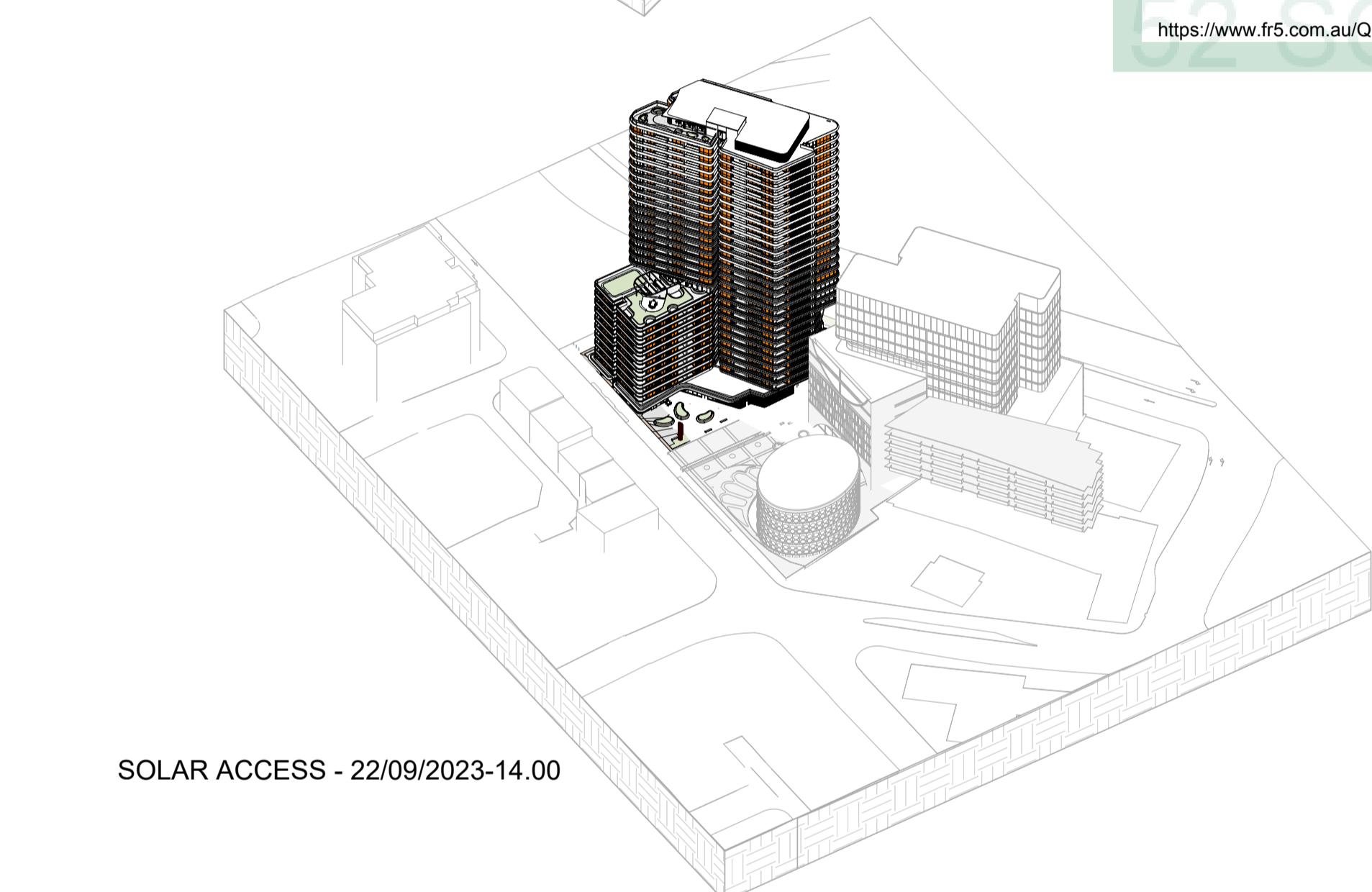
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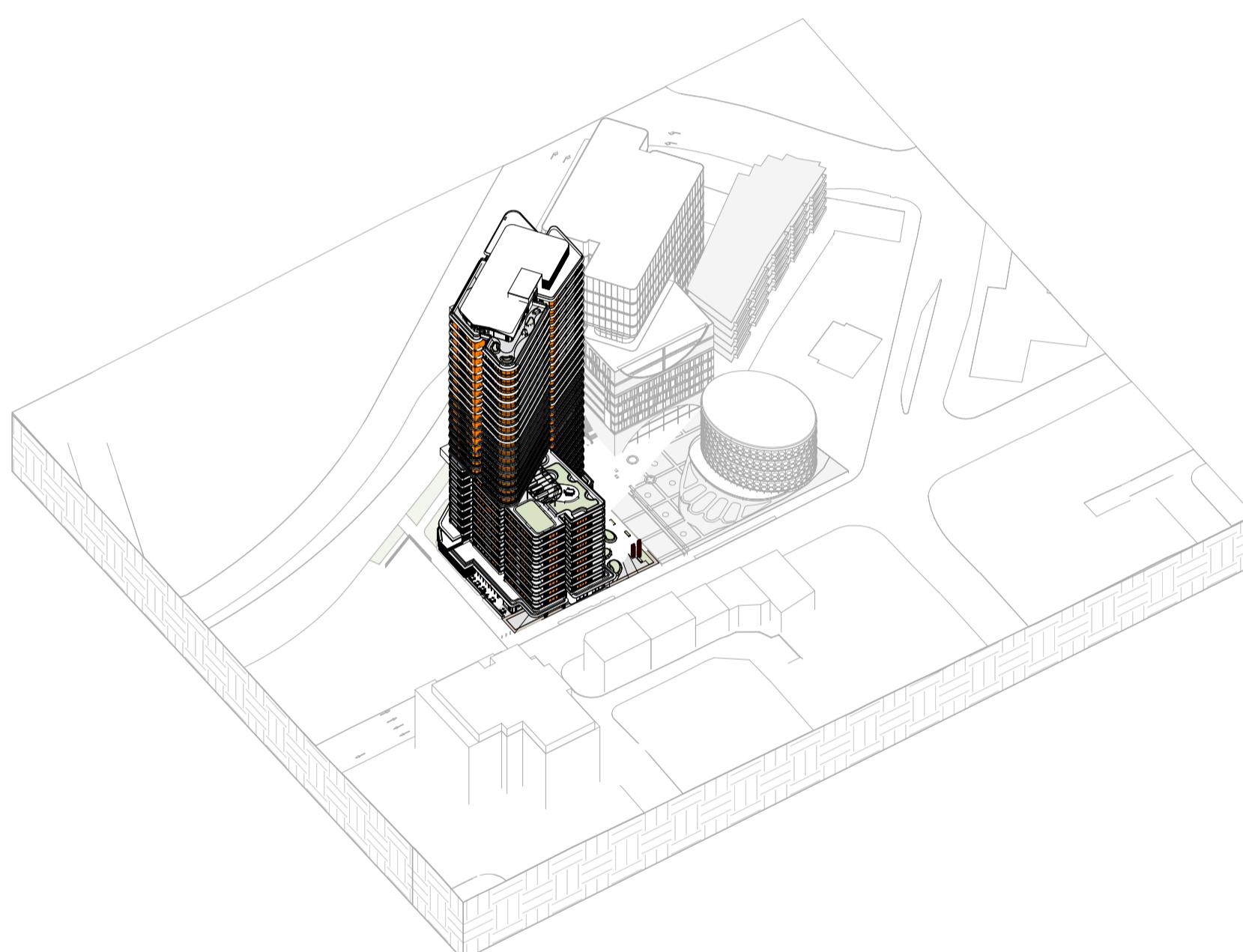
SOLAR ACCESS - 22/09/2023-11.00



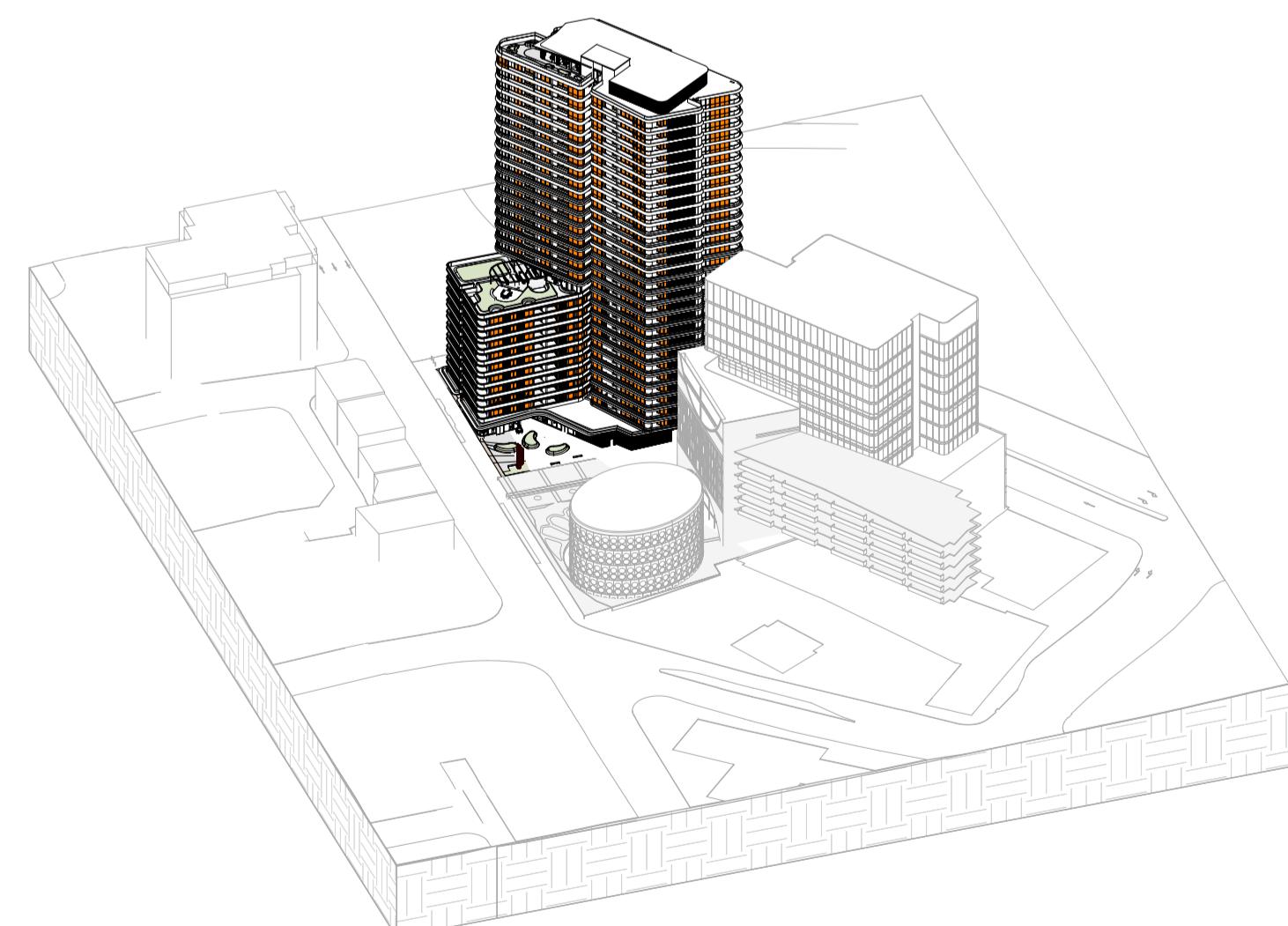
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SOLAR ACCESS - 22/09/2023-13.00



SOLAR ACCESS - 22/09/2023-14.00



SOLAR ACCESS - 22/09/2023-15.00

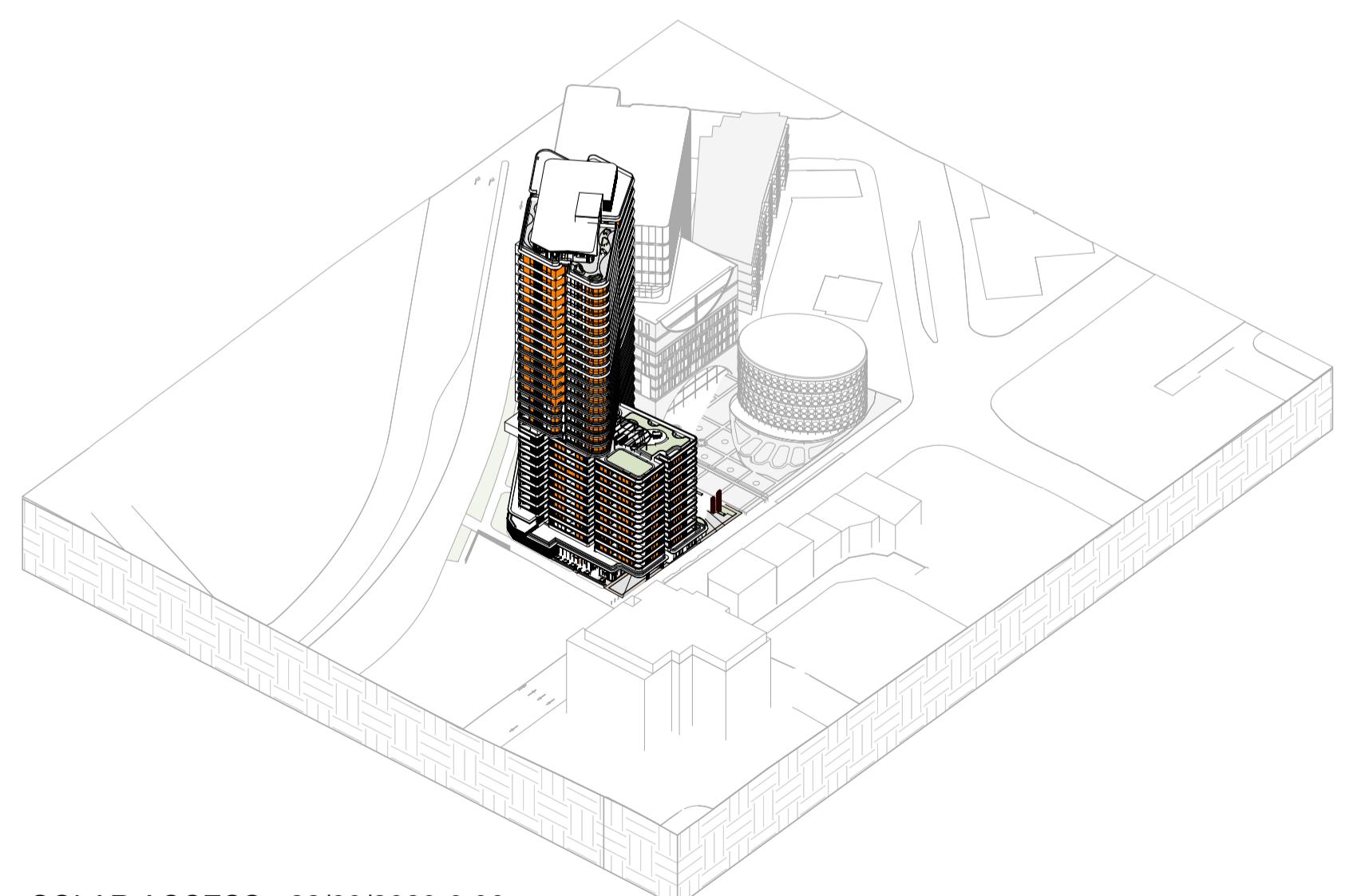


Certificate No. # 176VX2JMFZ

Scan QR code or follow website link for rating details.

Assessor name E-LAB Consulting  
 Accreditation No. DMN/20/1972  
 Property Address 52 Scott Street,  
 Liverpool, NSW, 2170

<https://www.fr5.com.au/QRCodeLanding?PublicId=176VX2JMFZ&GrpCert=1>



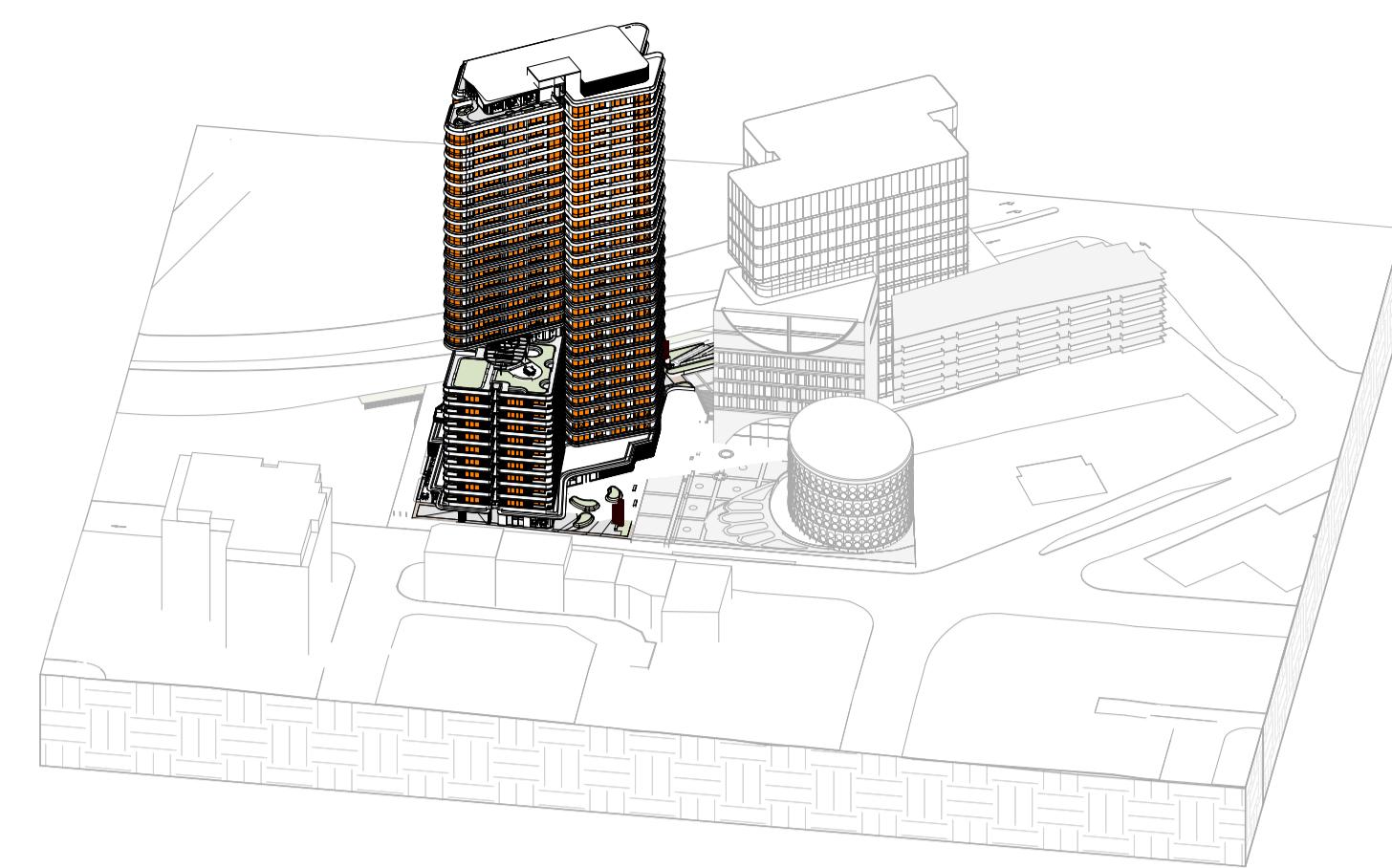
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#### SUN EYE VIEW LEGEND

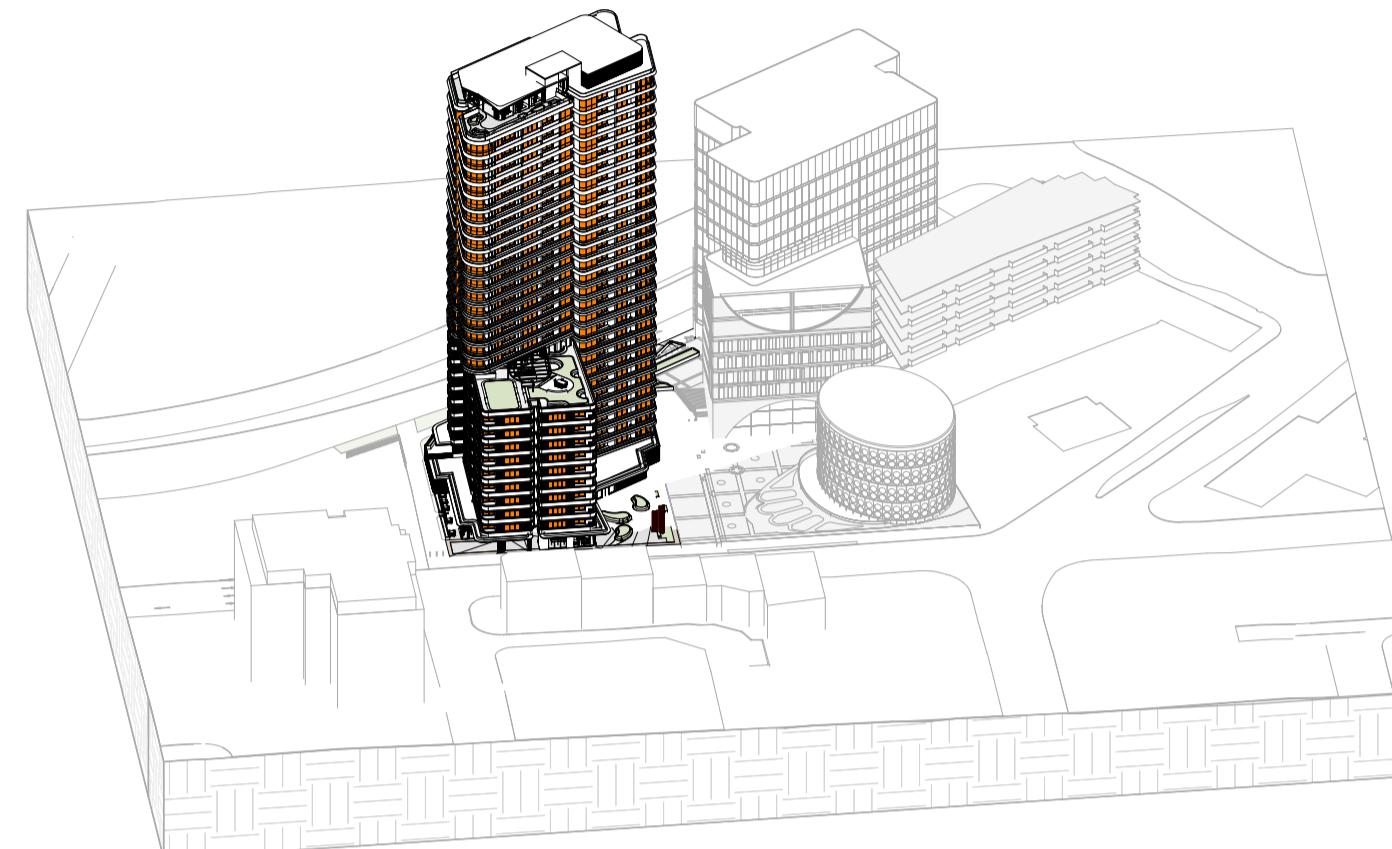


SOLAR ACCESS

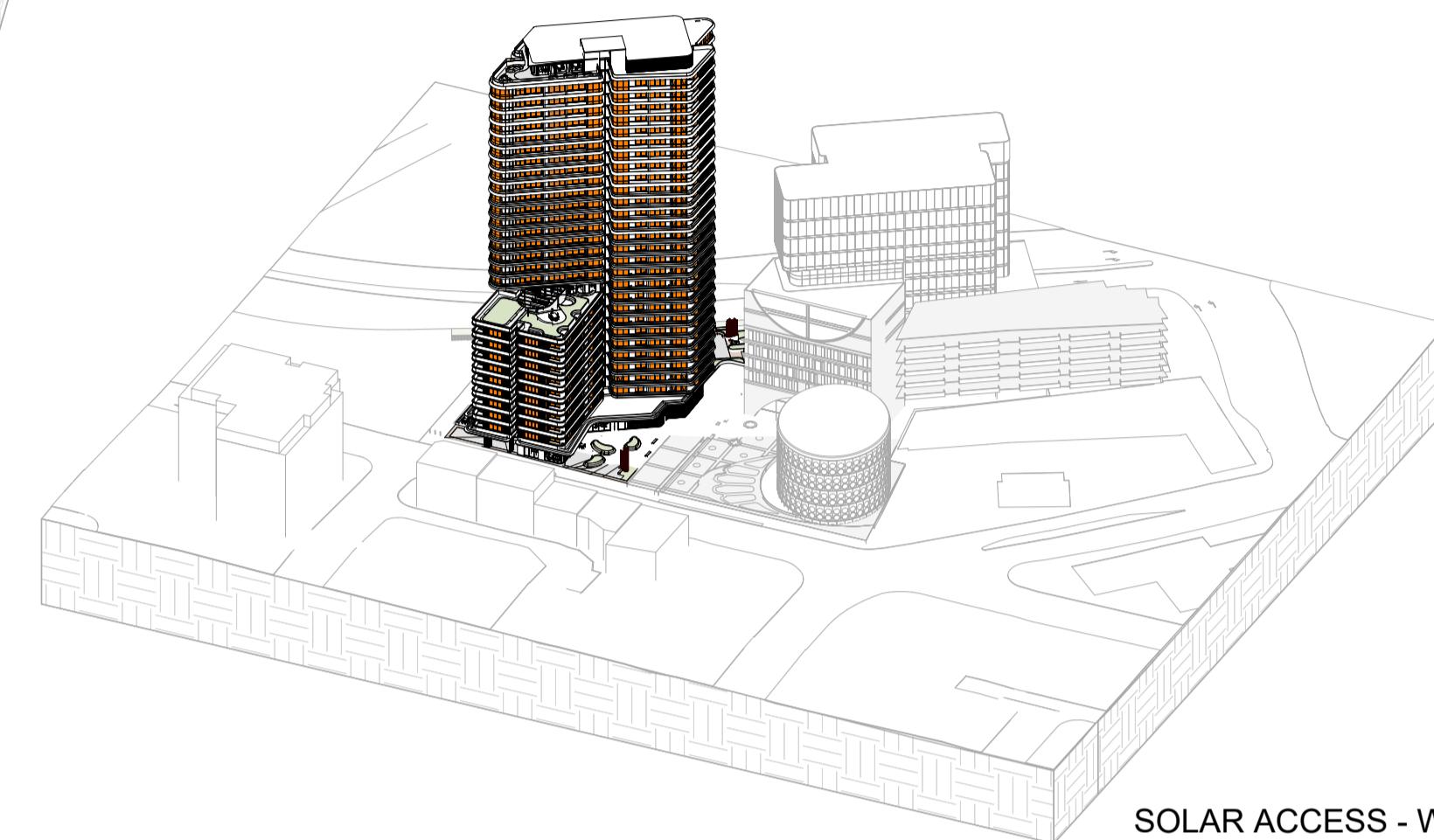
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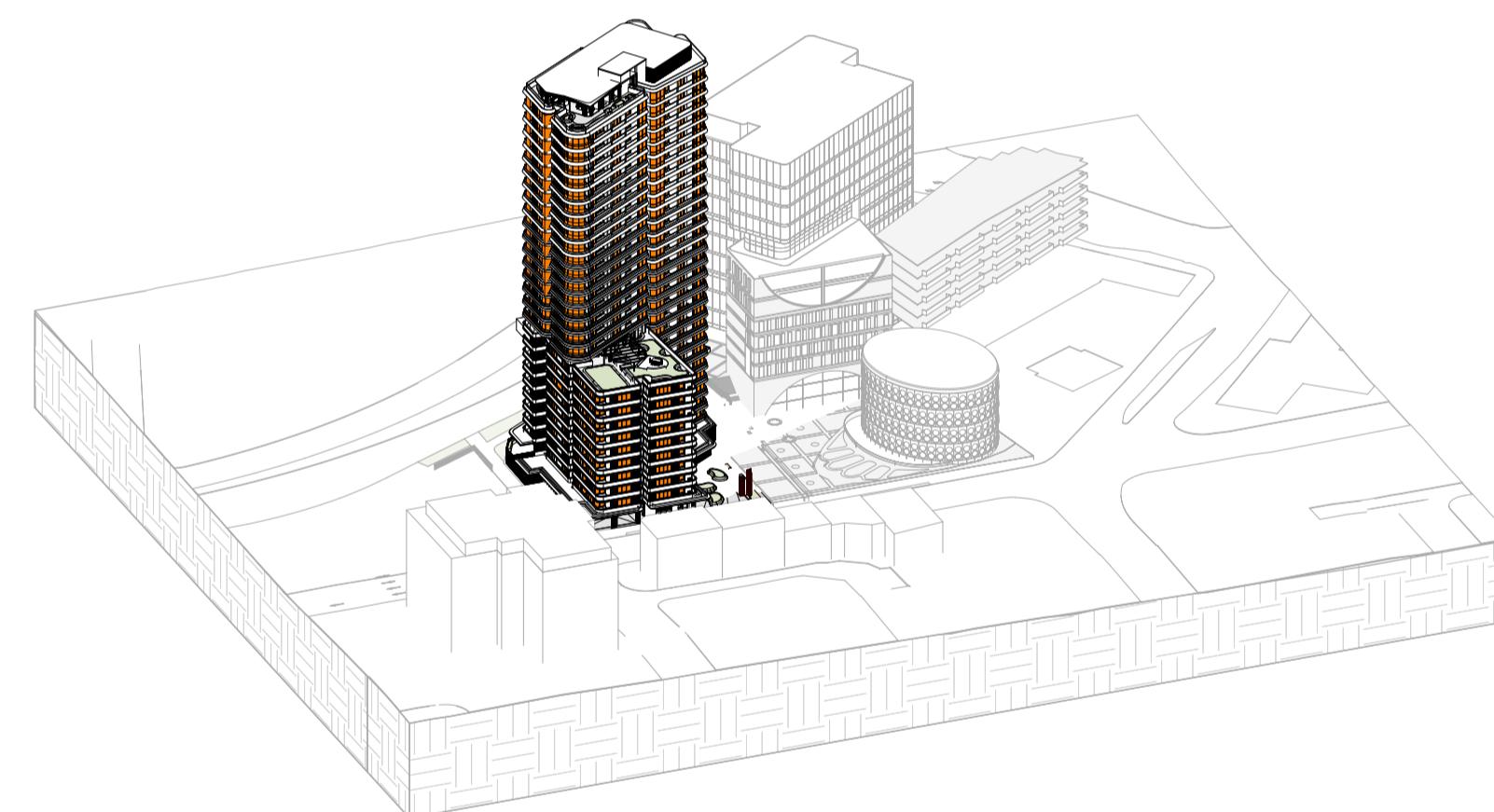
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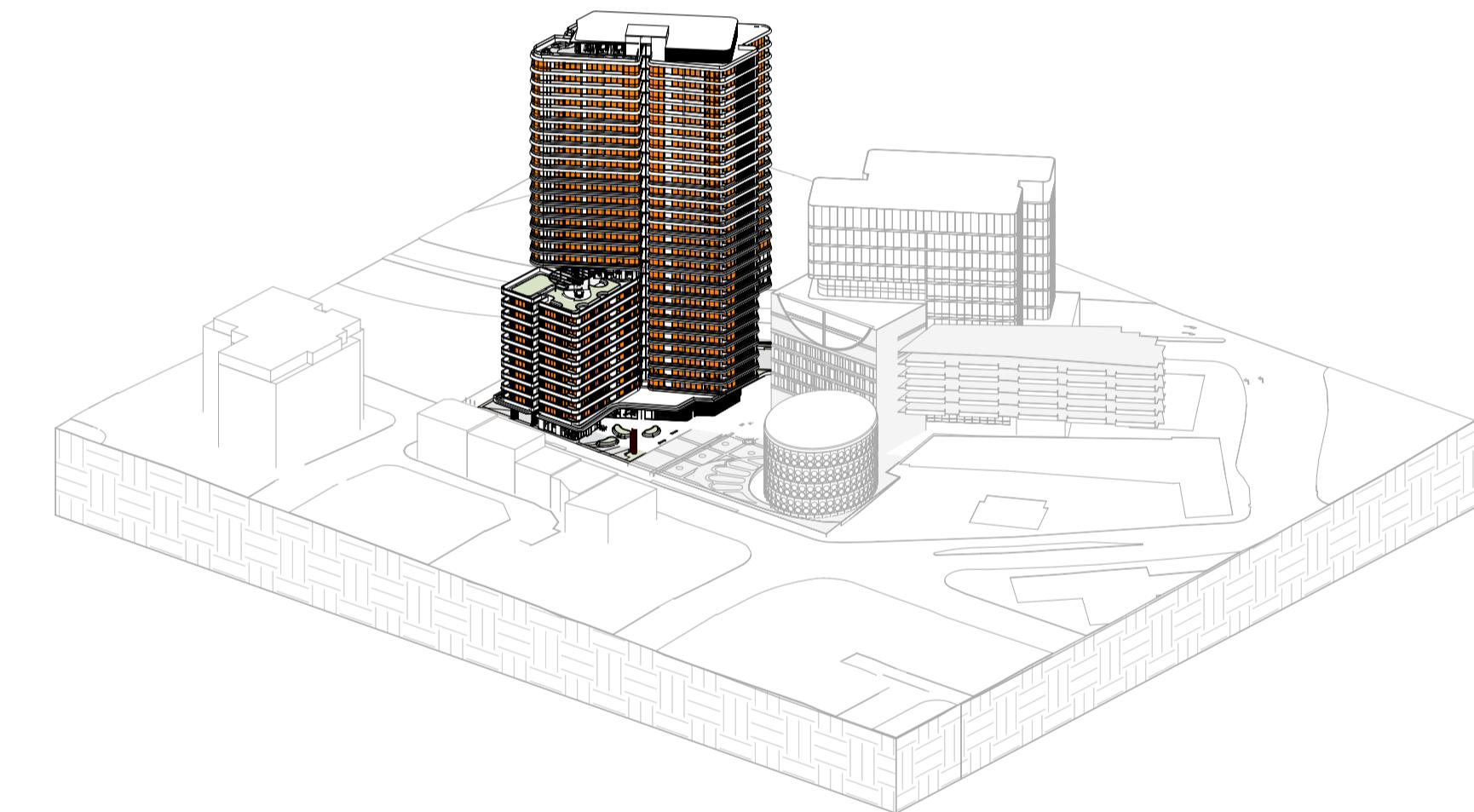
SOLAR ACCESS - WINTER-11.00



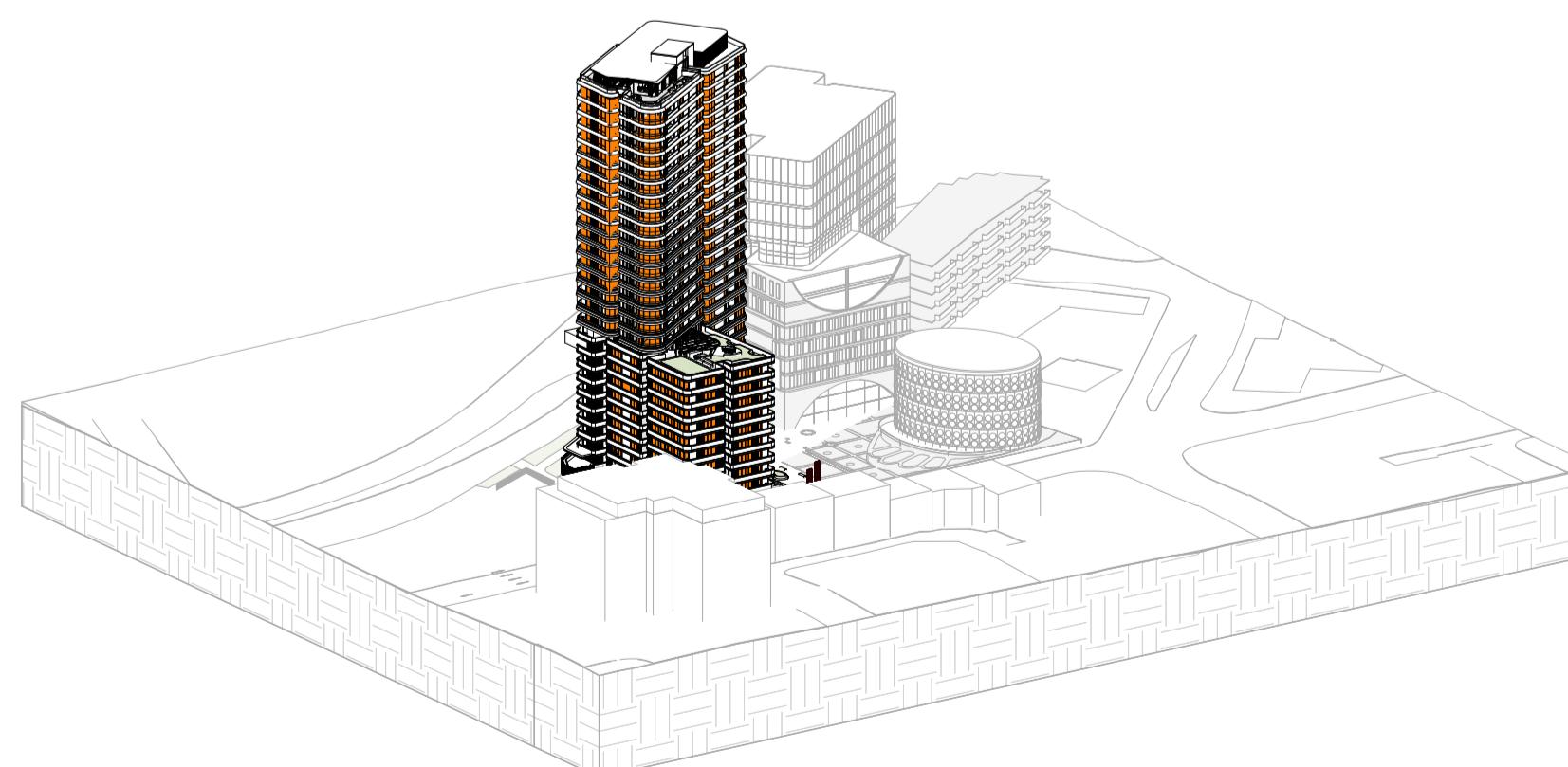
SOLAR ACCESS - WINTER-13.00



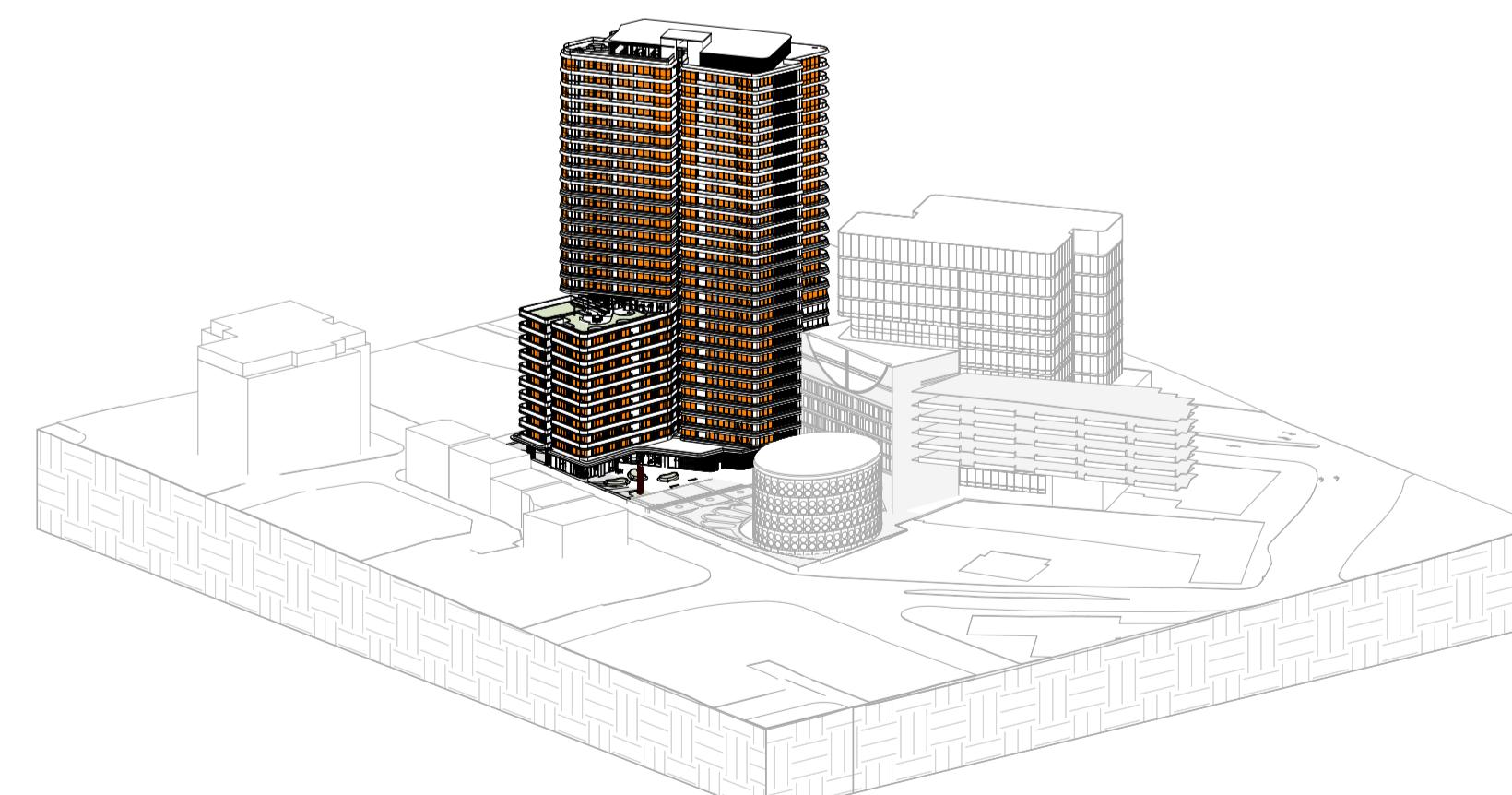
SOLAR ACCESS - WINTER-10.00



SOLAR ACCESS - WINTER-14.00



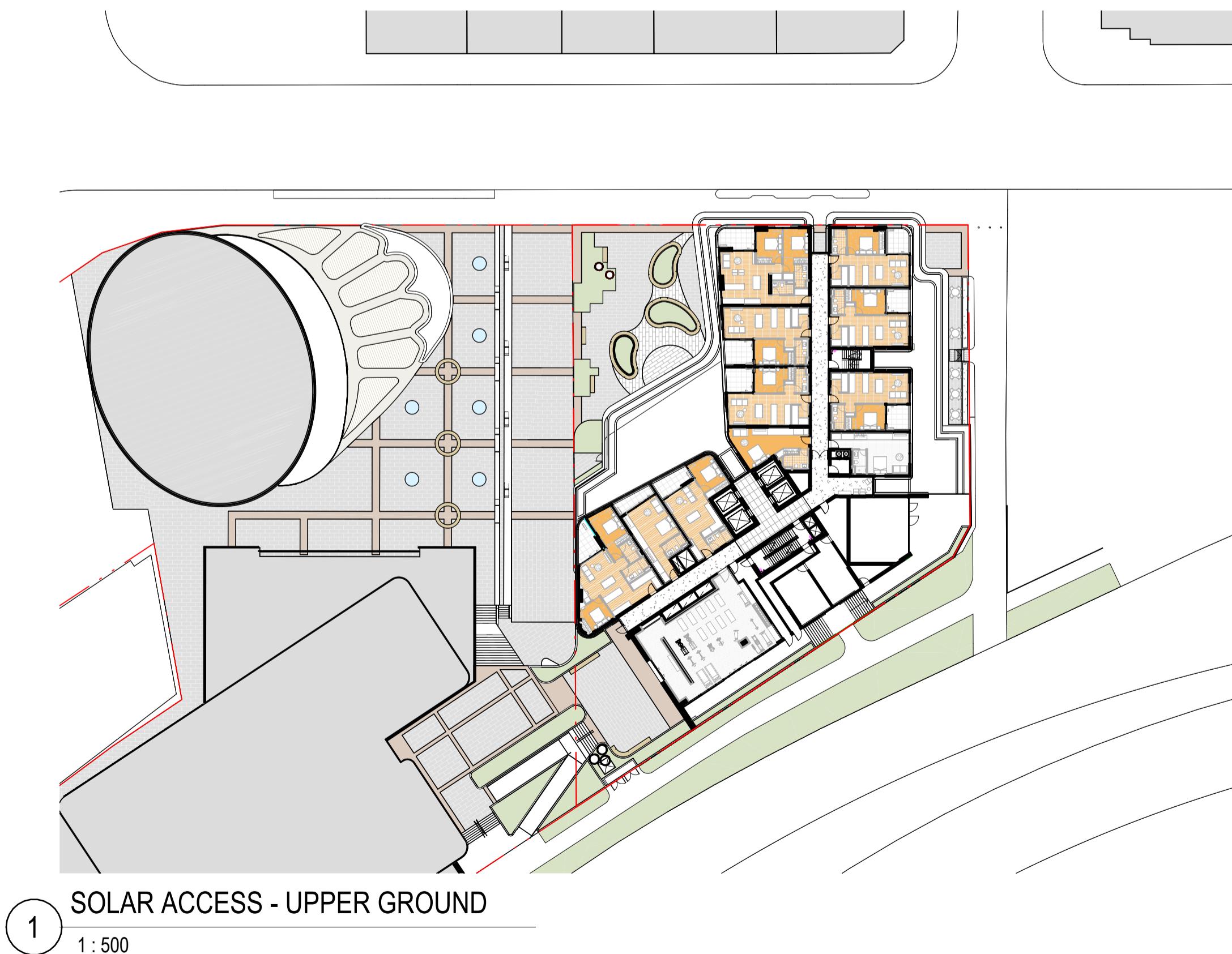
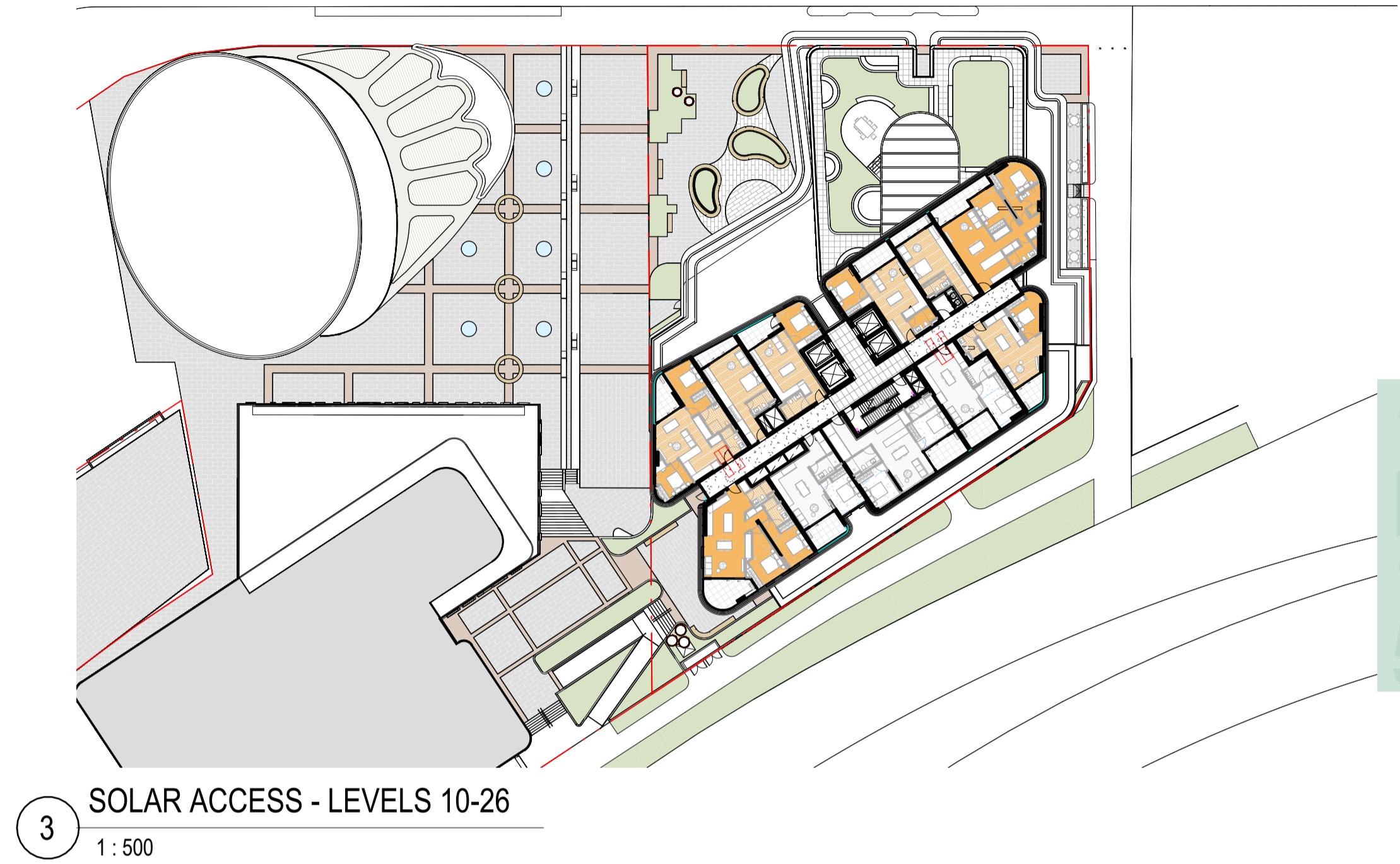
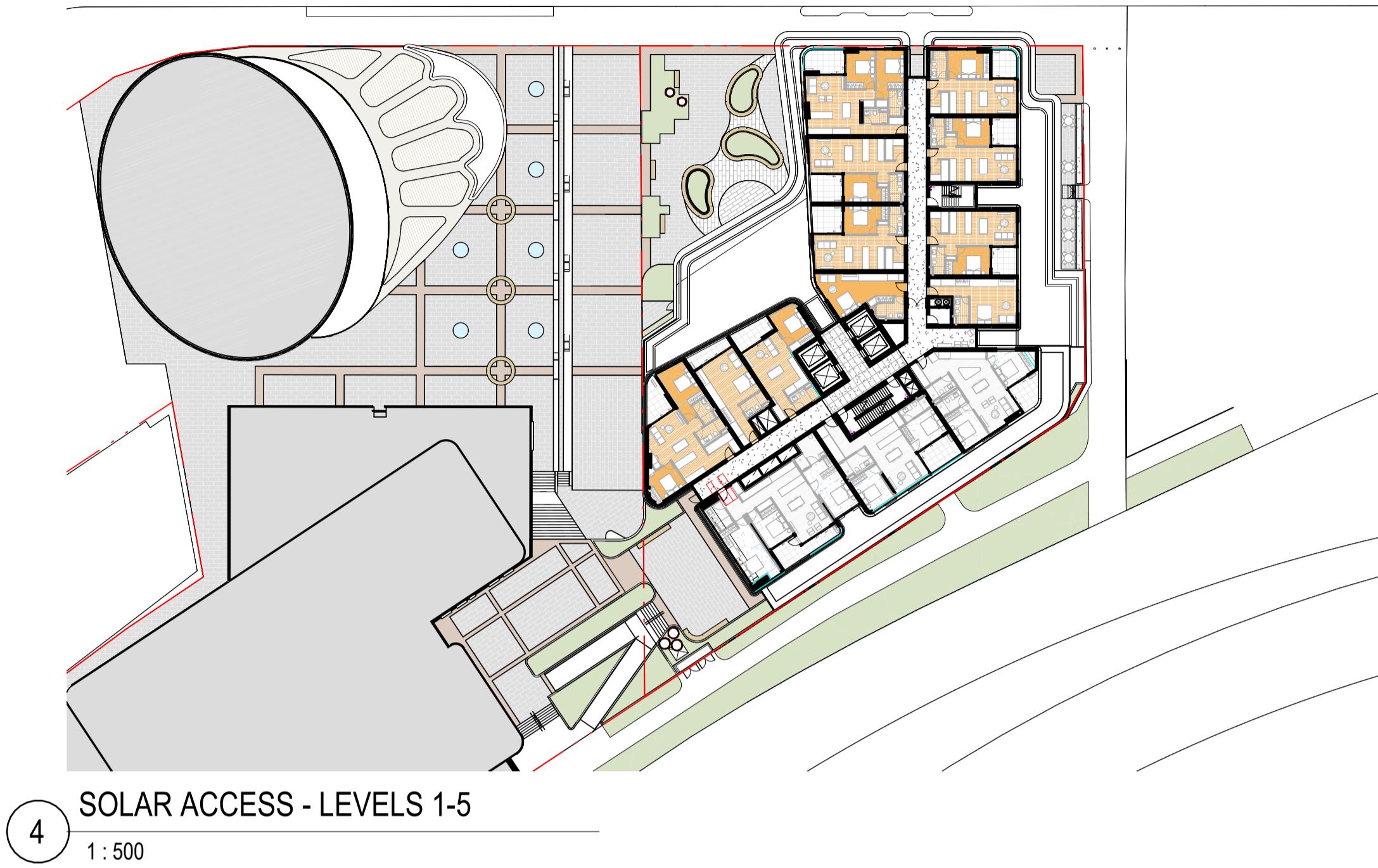
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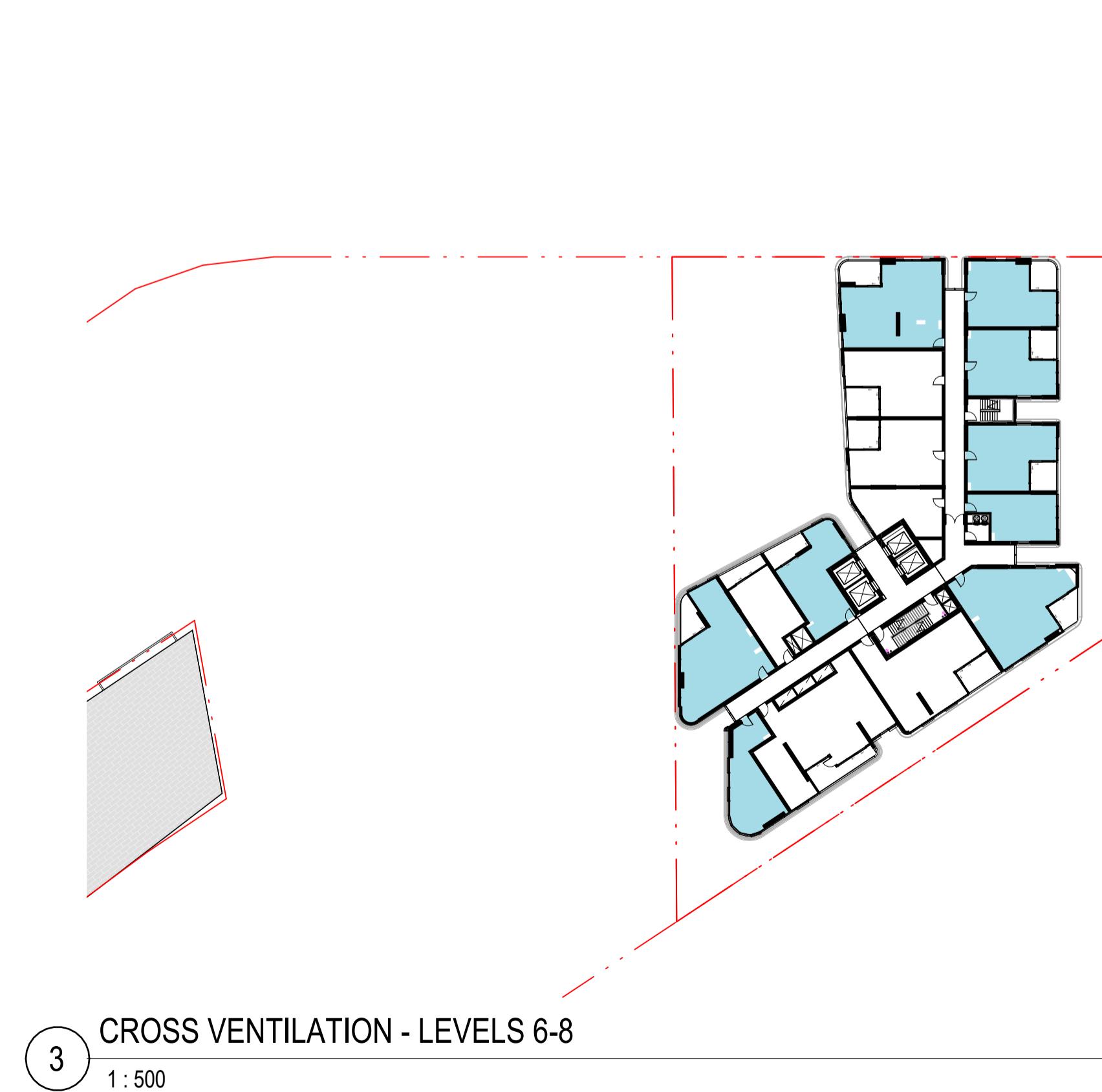
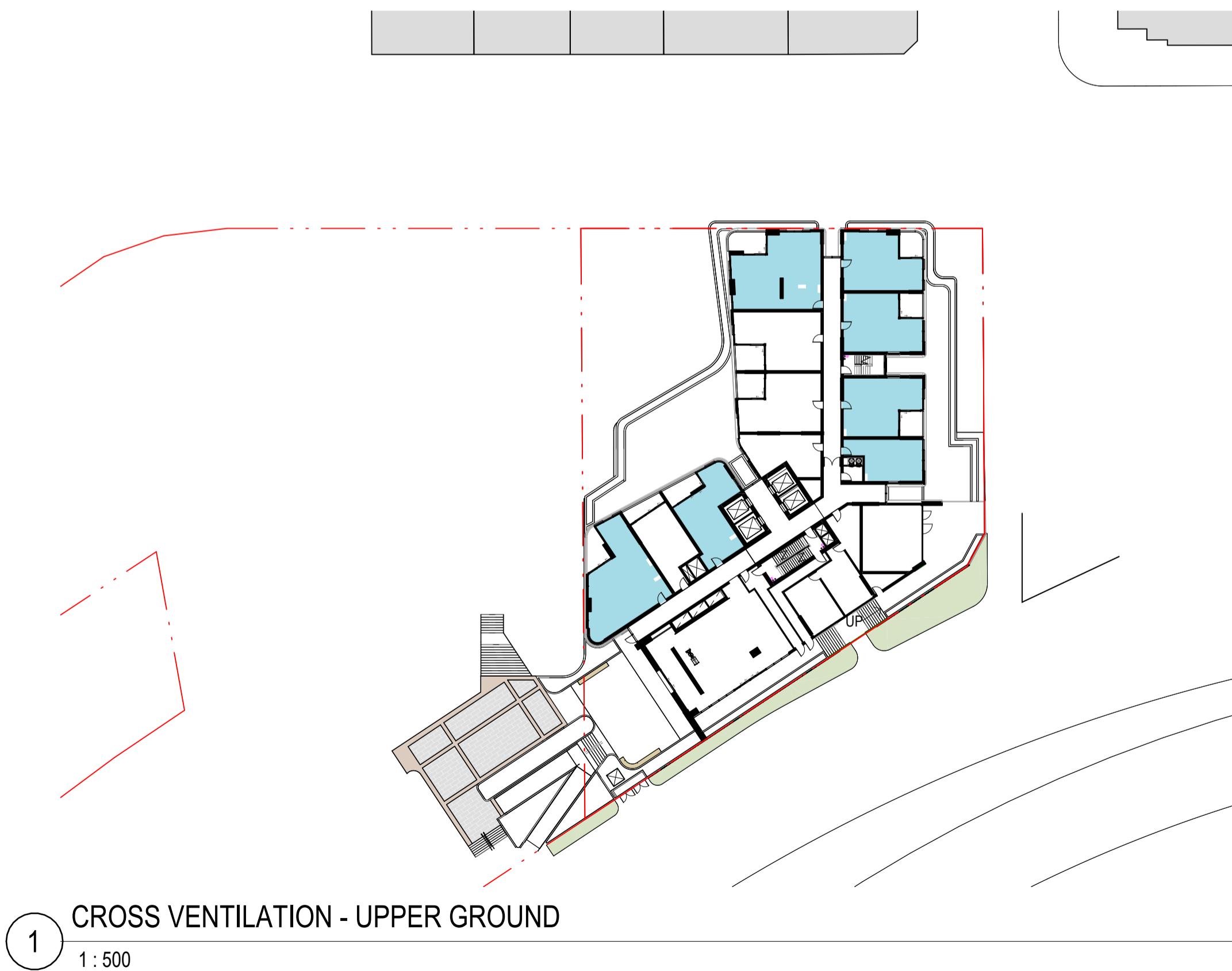
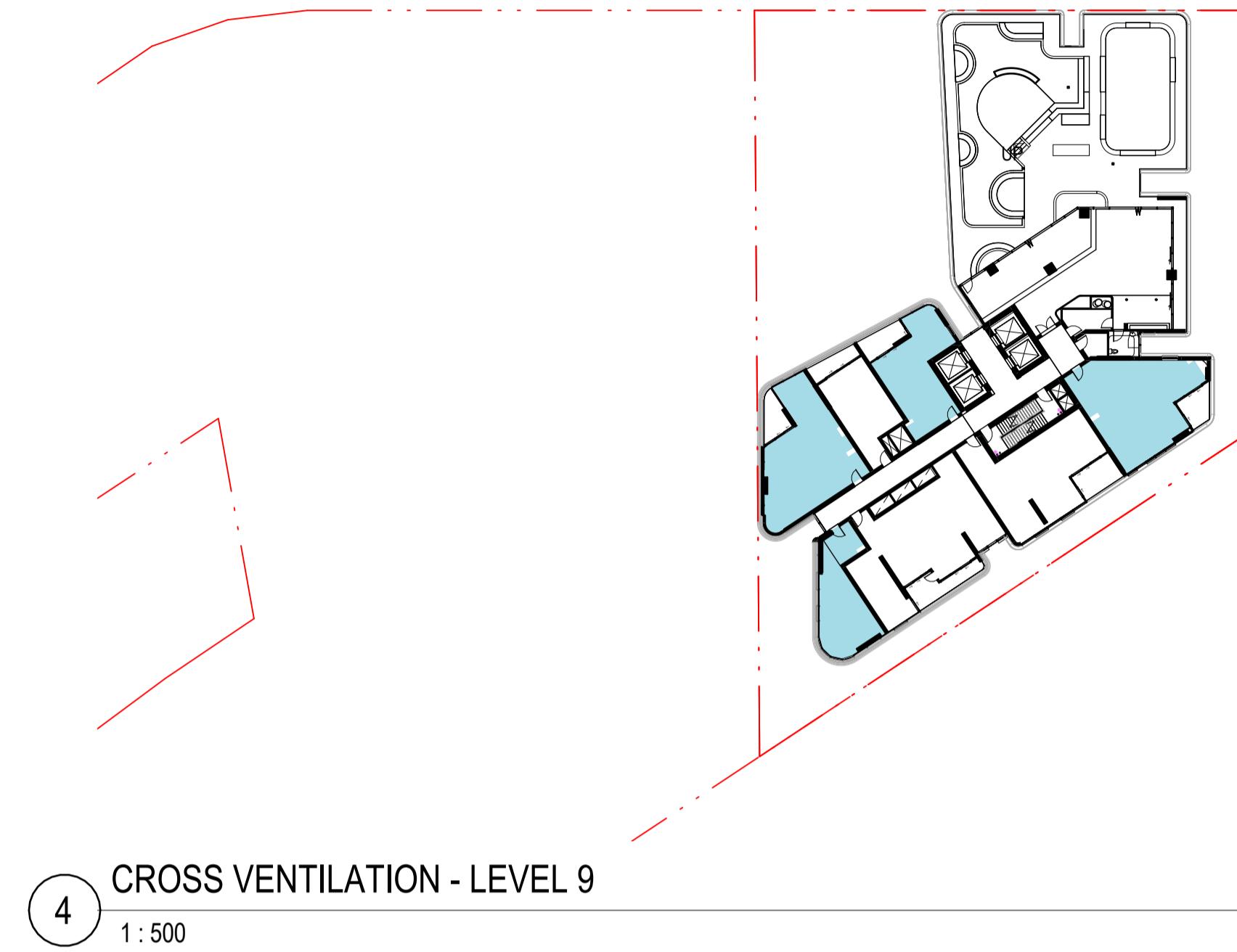
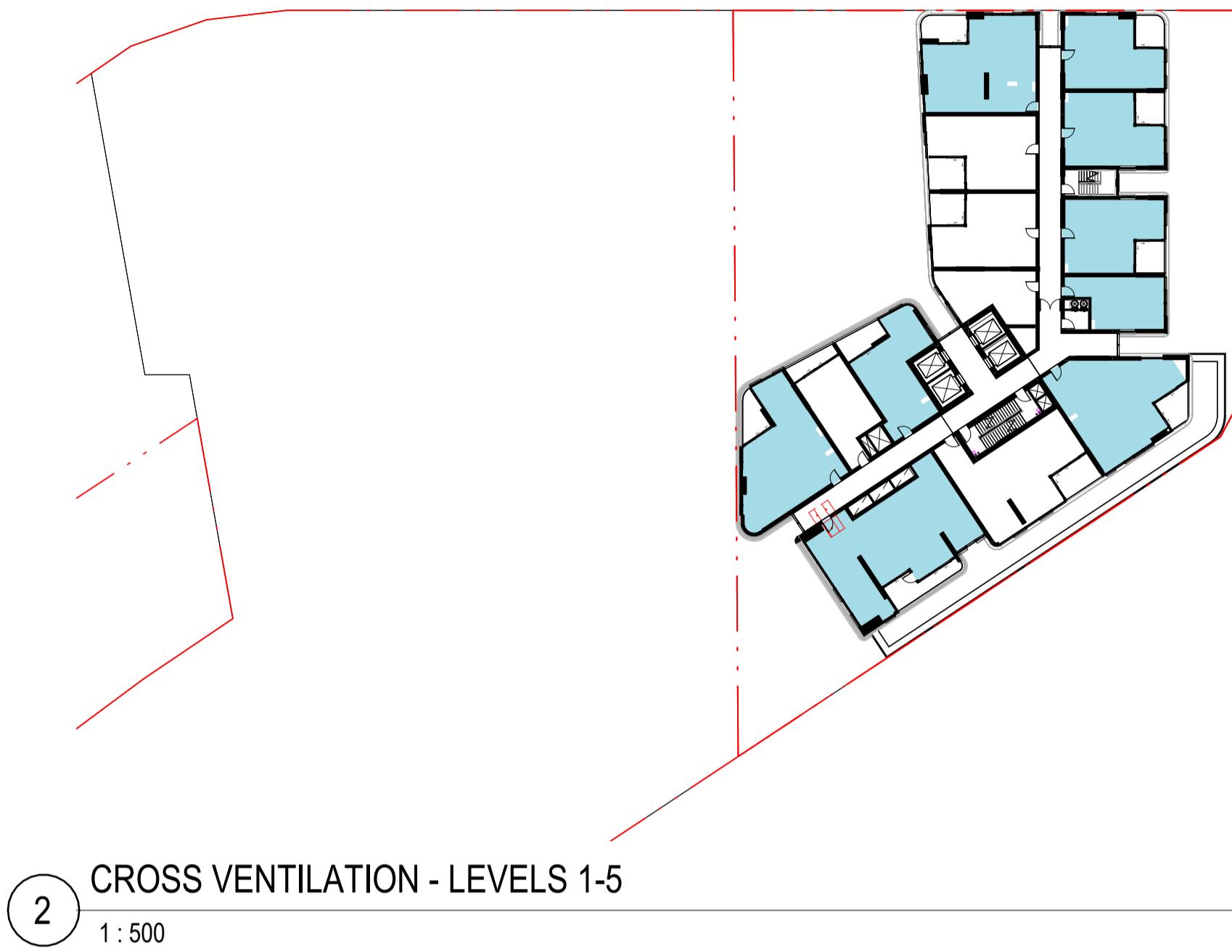
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**SUN EYE VIEW LEGEND**



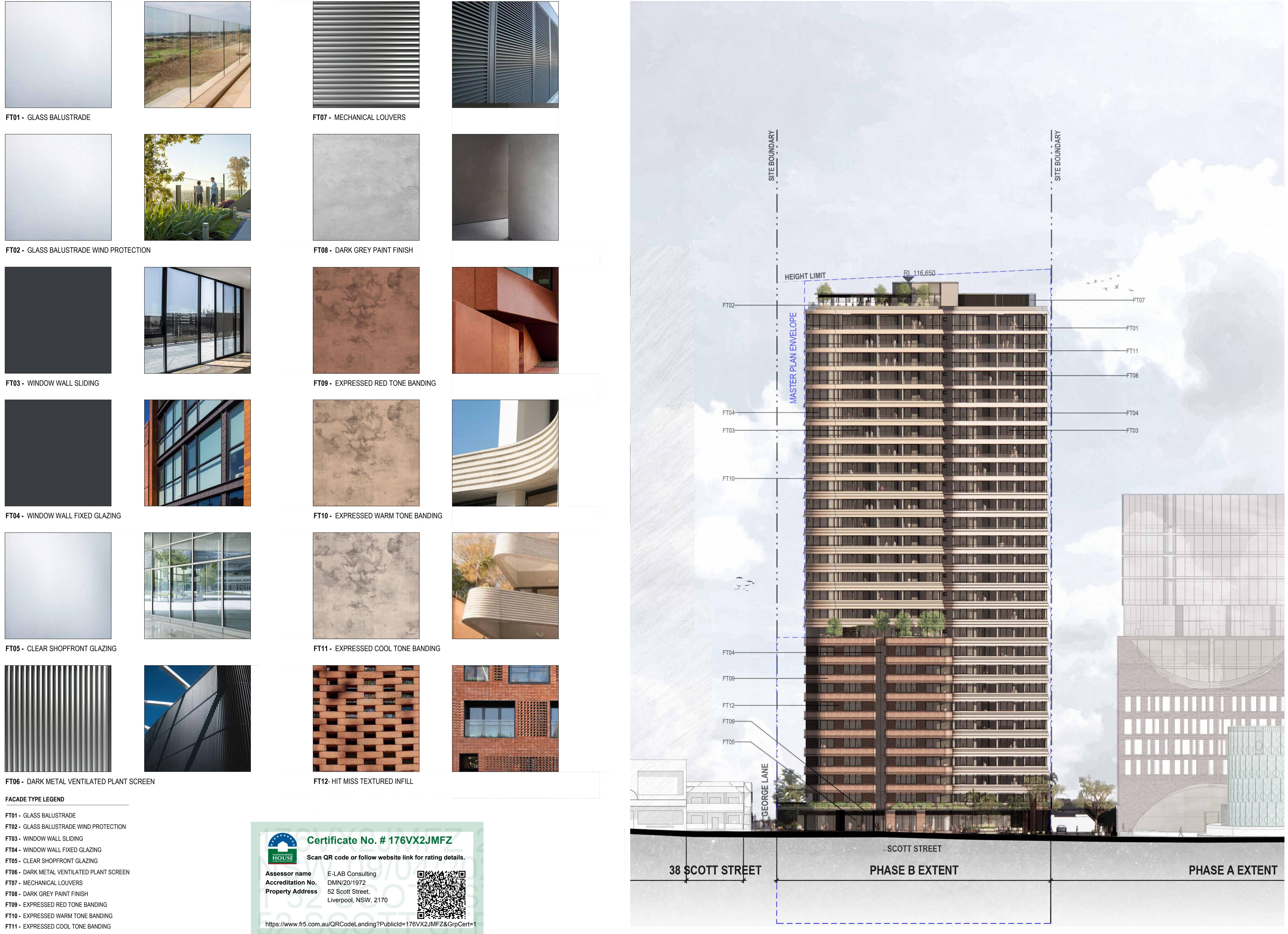


SSDA - Apartment Schedule - Solar		
Solar Access	Count	Percentage Mix
-	82	25.6%
Yes	238	74.4%
Grand total: 320		

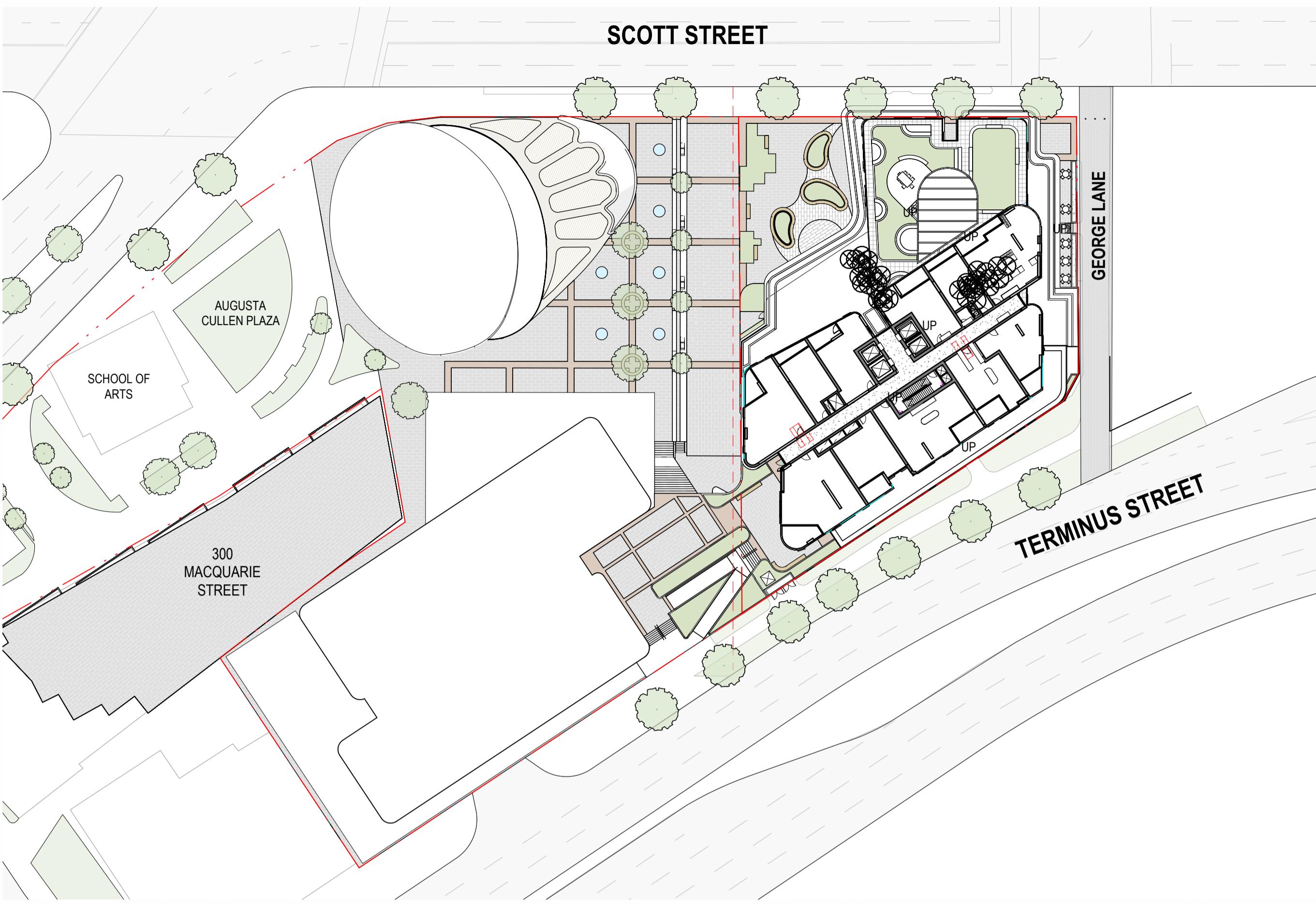


SSDA - Apartment Schedule - Cross Ventilation		
CrossVentilation	Count	Percentage Mix
-	47	37.3%
Yes	79	62.7%
Grand total: 126		

[Status] FOR APPROVAL  
 [Nom. Architect] NICK BANDOUNAS /8499  
 [File] 20230059-AB-DA001-R24  
 [Print Date] 28/03/2024 8:39:19 AM  
 History  
 [Rev#] [Description] A ISSUED FOR SSDA  
 [Date] dd.mm.yyyy 12.03.24

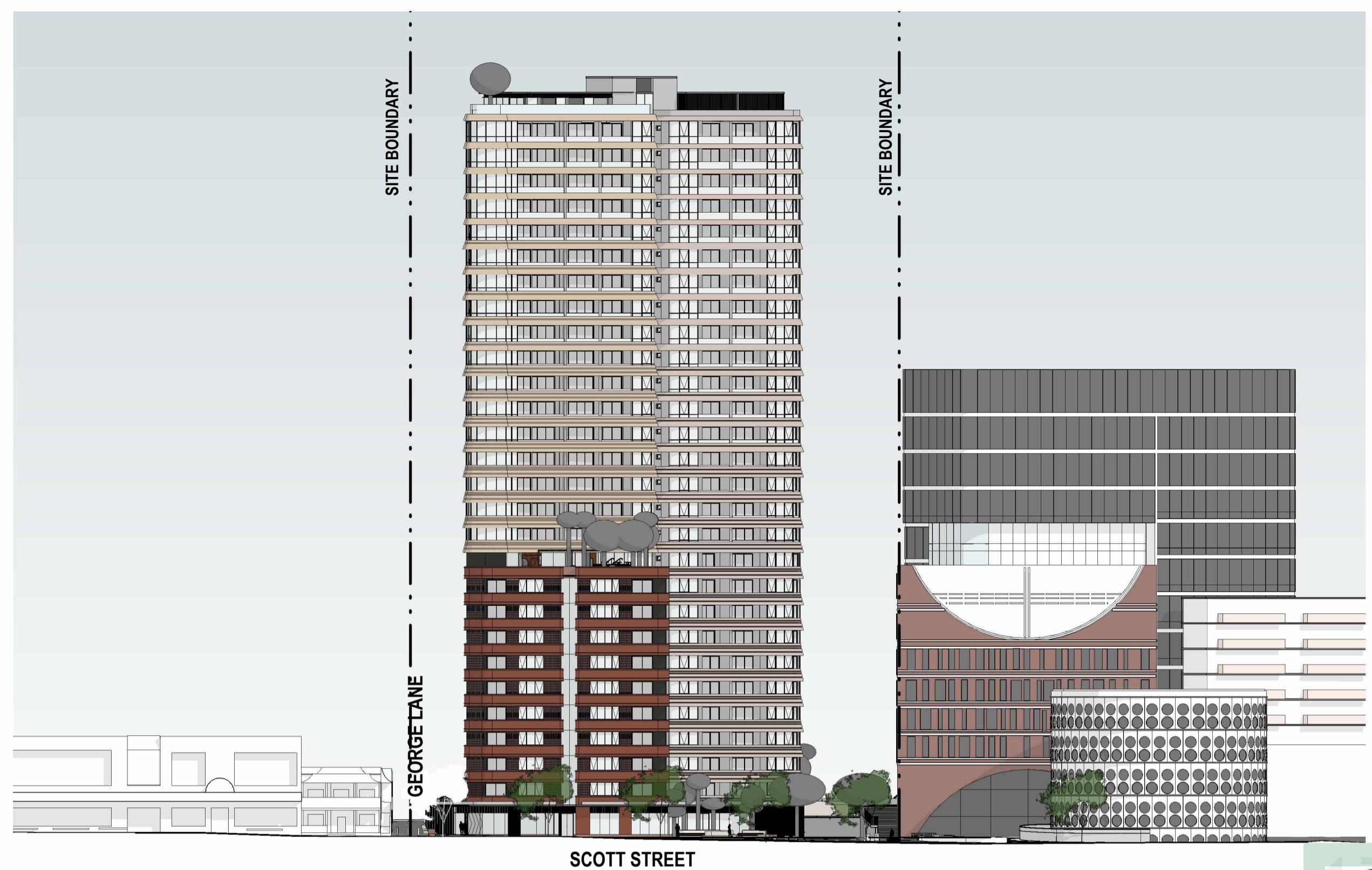


[Status] FOR APPROVAL  
 [Nom. Architect] NICK BANDOUNAS /8499  
 [File] 20230059-AB-DA001-R24  
 [Print Date] 28/03/2024 8:43:21 AM  
 History  
 [Rev#] [Description] A ISSUED FOR SSDA  
 [Date] dd.mm.yy 12.03.24



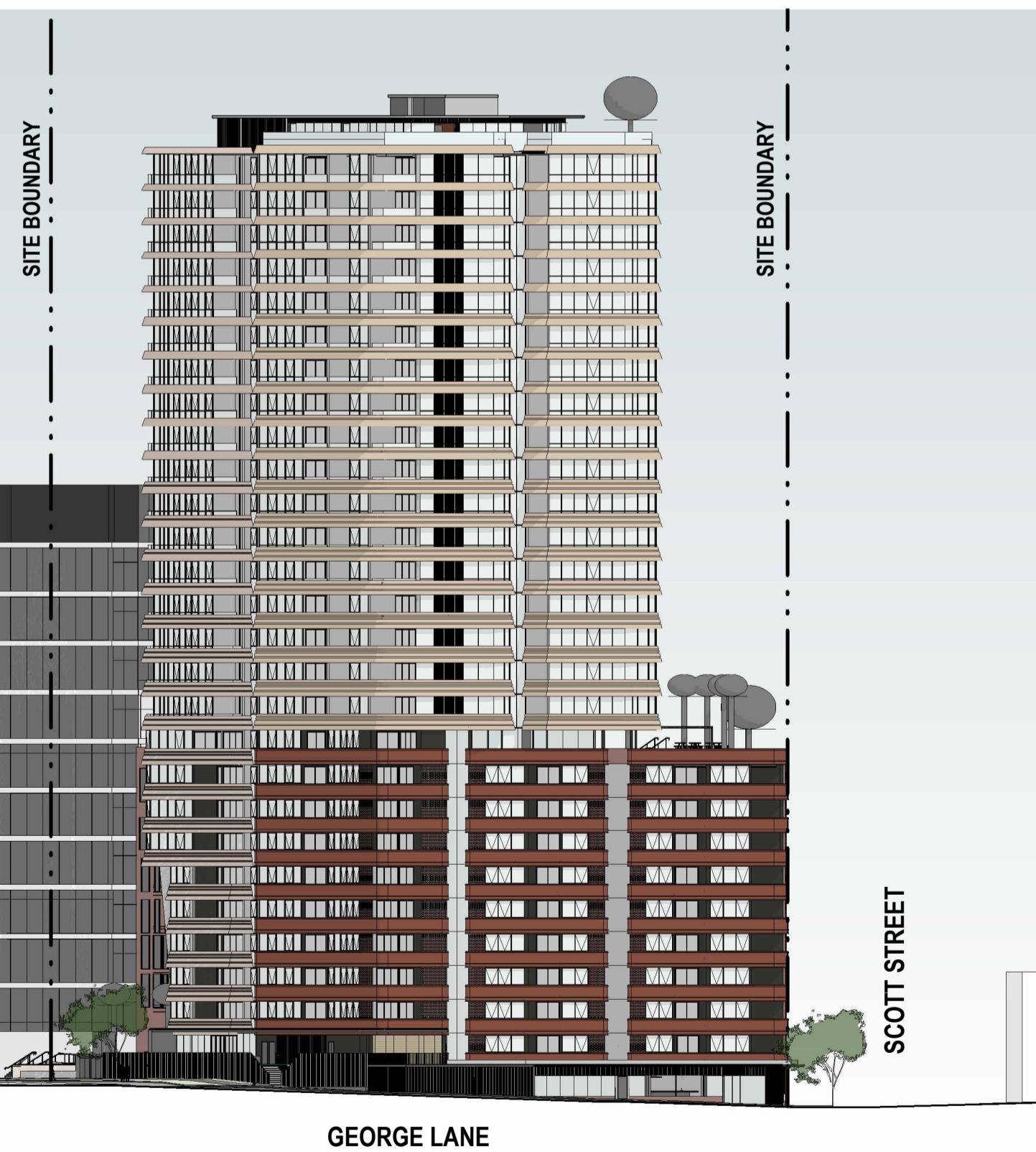
1 NOTIFICATION - PROPOSED SITE PLAN

1 : 500



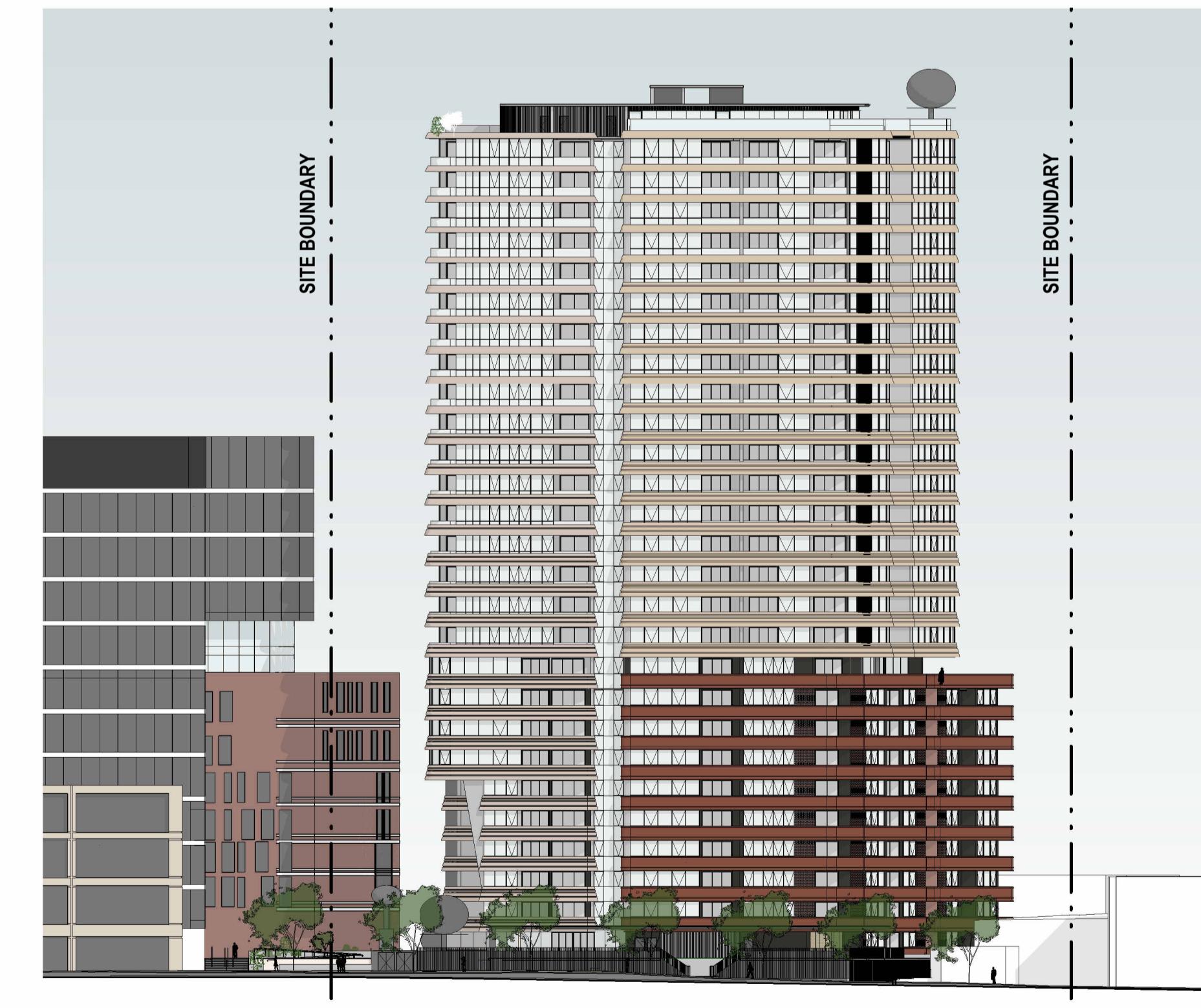
2 NOTIFICATION - NORTH ELEVATION

1 : 500



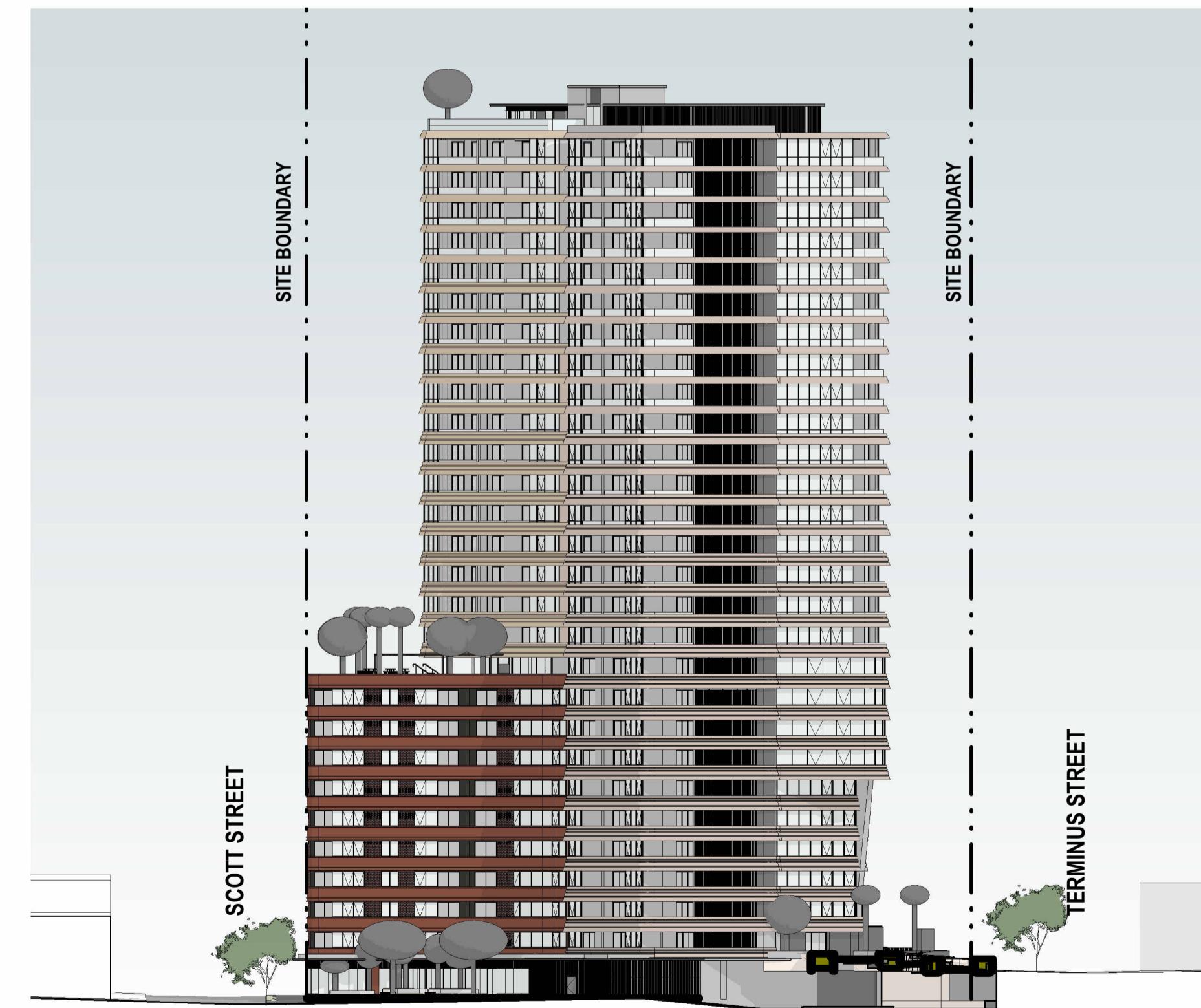
3 NOTIFICATION - EAST ELEVATION

1 : 500



4 NOTIFICATION - SOUTH ELEVATION

1 : 500



5 NOTIFICATION - WEST ELEVATION

1 : 500

0 5 10 15 20 25 m  
Bar Scale 1:500

[Scale] 1 : 500 @ A1