TIAN AN AUSTRALIA

IN
COLLABORATION
WITH

URBIS

SITE IMAGE
Landscape Architects

BUREAU
BUREAU OF URBAN ARCHITECTURE

4 MITCHELL STREET, ENFIELD

URBAN DESIGN + ARCHITECTURE REPORT

BURWOOD COUNCIL PLANNING PROPOSAL SUBMISSION (ADDENDUM)

PREPARED BY: BUREAU OF URBAN ARCHITECTURE
ON BEHALF OF: TIAN AN AUSTRALIA

21 MAY 2018

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DOCUMENT

URBAN DESIGN + ARCHITECTURE REPORT

PROJECT

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ASSUMPTIONS

All scales are at A3 size unless noted otherwise.
All drawings are not to scale unless noted otherwise.
All images are by Bureau unless noted otherwise.

Note:
This document is to be read in conjunction with the following reports;

1. Urbis Planning Proposal Addendum, dated May 2018
2. Site Image Landscape Report, dated May 2018
3. DEM Urban Design Report, dated July 2017

CONTENTS

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1.0 INTRODUCTION

1.1 OVERVIEW

This Addendum Report supports a Planning Proposal which seeks amendments to Burwood LEP 2012 (BLEP) to amend the building height and FSR development standards applicable to the site, along with the local provisions and additional permitted uses for the site. This will ultimately facilitate housing diversity with a contemporary and elegant residential development, creating a community adjacent to Henley Park. This Report provides an update to the Planning Proposal Report which was lodged in July 2017.

The site is located west of Burwood Road, and between the Hume Highway (Liverpool Road) to the north and Georges River Road to the South. It is approximately 2km south of Burwood CBD and 900m west of Croydon Park local shopping centre. The site is within 100m of a high frequency bus stop on Burwood Road, where the Route 400 and Route M41 buses connect the site with destinations including the Burwood Town Centre, Bondi Junction, Sydney Airport, Hurstville and Macquarie Park.

The NSW Head Office of Vision Australia was formerly located on the site, in a large-scale building varying in height from one to three commercial storeys; equivalent to approximately 2-5 residential storeys.

The objective of the Planning Proposal is to formally amend BLEP 2012 to alter the building height and Floor Space Ratio (FSR) development standards applicable to the site, to ultimately facilitate housing diversity with a contemporary and elegant residential development, creating a community adjacent to Henley Park.

1.2 BACKGROUND

The original planning proposal lodged by Tian An Australia on 6 July 2017, sought to:

- Amend the Schedule 1 additional permitted uses to incorporate a café-restaurant and function centre for the site;
- Increase the site's maximum height of building to 21m; and
- Increase the site's maximum FSR to 1.4:1.
- The Council recommended that any approach would need to respect the character of the surrounding local area (particularly as the built form relates to the streetscape in Mitchell Street), carefully manage interfaces to surrounding properties and impacts on these, and address any potential traffic impacts on the local road network.

1.3 PURPOSE OF THIS REPORT

Bureau of Urban Architecture has been engaged by the Tian An Australia to prepare an Urban Design and Architecture Addendum Report to test, review and consider urban outcomes and a preliminary concept design to:

- Amend the Burwood Local Environmental Plan 2012 (BLEP 2012) 'Height of Buildings Map – Sheet HOB_002'
  It is proposed that the existing 'Height of Buildings Map' be amended to provide detailed maximum heights that reflect the concept design proposed by this report.
- Amend the BLEP 2012 'Floor Space Ratio Map – Sheet FSR_002'
  It is proposed that the existing 'Floor Space Ratio Map' be amended to provide a maximum FSR of 1.4:1. The proposed amendments to the BLEP 2012 will therefore facilitate the comprehensive redevelopment of the site for residential purposes. It is not proposed to amend the zoning for the site within this Planning Proposal. This is because the site is currently zoned as R1 General Residential. The objectives of the zone are to:

  - Provide for the housing needs of the community.
  - Provide for a variety of housing types and densities.
  - Enable other land uses that provide facilities or services to meet the day to day needs of residents.
  - Within this zone residential flat buildings are permitted with consent and the proposal is consistent with the objectives for the zone set out above.

- Amend the BLEP to facilitate additional local retailing, café and business uses on the lower ground floor of the proposal to activate the park frontage and enhance the connection between the park and the development. As such, this proposal seeks a new local provision in Part 6 of the BLEP and new additional uses to be set out within Schedule 1 of the BLEP.

1.4 COUNCIL LETTER RESPONSE MATRIX

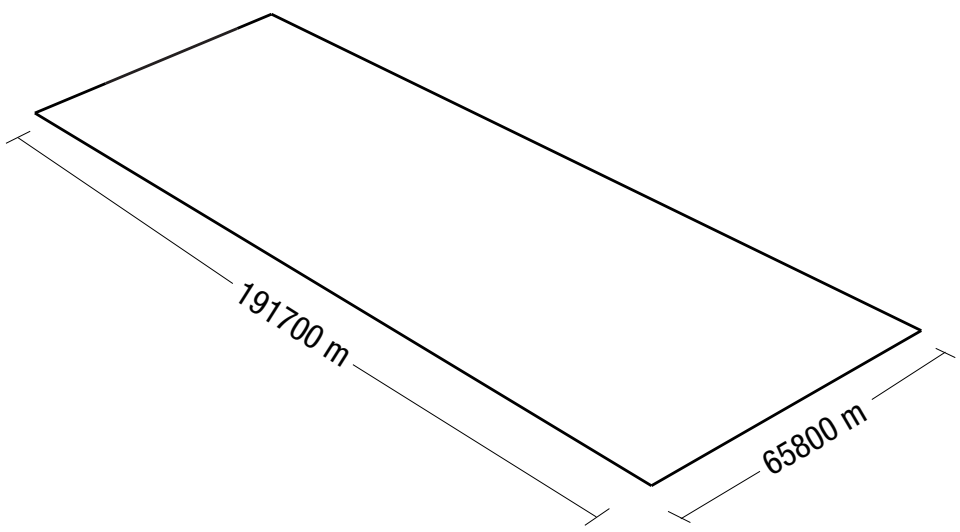
	COUNCIL RECOMMENDATION	BUREAU RESPONSE	ACHIEVED
1.0	**Floor Space Ratio (FSR)**		
	The original PP sought an increase in FSR from the existing 0.85:1 to 1.4:1. As already pointed out by Council's consultant, the FSR of 1.85: 1, which the revised design concept presented, should be brought down to no greater than what was initially sought, or it would not be recommended for support by Council. Should you decide to submit the revised PP package based on the increased FSR, Council would require that all PP supporting documents be updated accordingly and new PP fees would be applicable.	Bureau have revised the scheme to provide residential GFA equivalent to 1.4:1 FSR.	**YES**
2.0	**Building Height and Building Articulation**		
	Council officers are of the view that the design should be of various building heights with a maximum of four storeys at its frontage to Henley Park and lower towards the properties in Burwood Road. It was suggested that the facade fronting the park, contained within the six building segments in the revised design concept, be treated to increase building articulation. These six segments should not be all four storeys in height.	Bureau have heavily recessed and stepped the top level, which will create a varied silhouette and built form from pedestrian eye level, breaking up the uniform height plane. This strategy coupled with the stepping at Mitchell Street ensures the building has many different levels and heights.	**YES**
3.0	**Shadow Impact**		
	Council is of the view that absolute minimum compliance with the ADG requirements is not necessarily sufficient, and the design should seek design excellence, particularly where the current maximum FSR of the zone is to be altered and exceeded. The two sunken courtyards in particular, could not be considered to have good solar access. However, lowering the building height next to the eastern boundary would improve solar access. It was also raised that future development should not cause more shadow impact than the e existing development on properties opposite the subject site in Mitchell Street.	Bureau has tested and analysed the built form and have created set-backs and stepping that allows 3 hours of solar access into the 'principal useable' areas of the communal open space located in the courtyard spaces during the winter solstice.	**YES**
4.0	**Communal Open Space and Roof Top Gardens**		
	Council is of the view that public walkways, such as the one along the eastern boundary of the site, could not be regarded as functional communal open space. The roofs of the proposed buildings should be treated to enhance the overall design, amenity and performance of the development. As advised by Council's consultant, and in order to minimise overlooking and maintain privacy, communal access to the roof top should be limited to the areas of roof fronting the park, not adjacent to properties in Burwood Road. Areas on the roof top where communal access is available can be included in the communal open space calculation. Non-accessible areas cannot.	The area of communal open space on the ground level achieves circa. 4,000m², which is equal to more than 30%. The concept design also contemplates an area of rooftop communal open space.	**YES**
5.0	**Employment Re-creation and Non Residential Use**		
	It was discussed that the ground floor of the development could include cafes, neighbourhood shops, and spaces for affordable retail and small start ups, to re-create employment opportunities and activate the frontage to the park. Limited non-residential land uses are currently permitted in the R1 zone under the Burwood Local Environmental Plan (LEP) 2012. However, this issue could be examined further, if the PP progresses to the LEP drafting stage, in consultation with the Department of Planning & Environment. It was confirmed that Council does not seek community facilities within development on the site.	Bureau has redesigned the scheme to provide opportunities for future convenience retail and café uses, providing at present 400m² of retail space in addition to the 1.4:1 residential fronting onto the park providing activation, local amenity and a positive connection to Henley Park. To facilitate this range of uses, the proponent seeks an new local provision in Part 6 of the BLEP and new additional uses to be set out within Schedule 1 of the BLEP.	**YES**
6.0	**Building Separations**		
	Again, Council is of the view that mere compliance with the ADG is not necessarily sufficient and that the building separations as shown in the revised design concept appear minimal and raise concerns. However, this matter can be examined further at the Development Application (DA) Stage.	Bureau have revised the design to achieve 18 metres separation between building forms. The building breaks have also been increased from 2.2m to 3.5m creating definable breaks and relief within the building facade further adding to the segmentation already employed.	**YES**
7.0	**DA Lodgement**		
	It appeared that Tian An Australia intended to lodge a DA during the PP process to further inform the community of what was planned. Council would discourage this approach, which faces uncertainty and a potential waste of the proponent's resources.	Acknowledged	N/A
8.0	**Voluntary Planning Agreement (VPA)**		
	Council is not interested in negotiating and/or entering into a VPA with Tian An Australia for this site.	Acknowledged	N/A

2.0 DESIGN PRINCIPLES DIAGRAMS

Bureau of Urban Architecture considered a range of design approaches for the site and presented and developed these through multiple Council workshops/meetings.

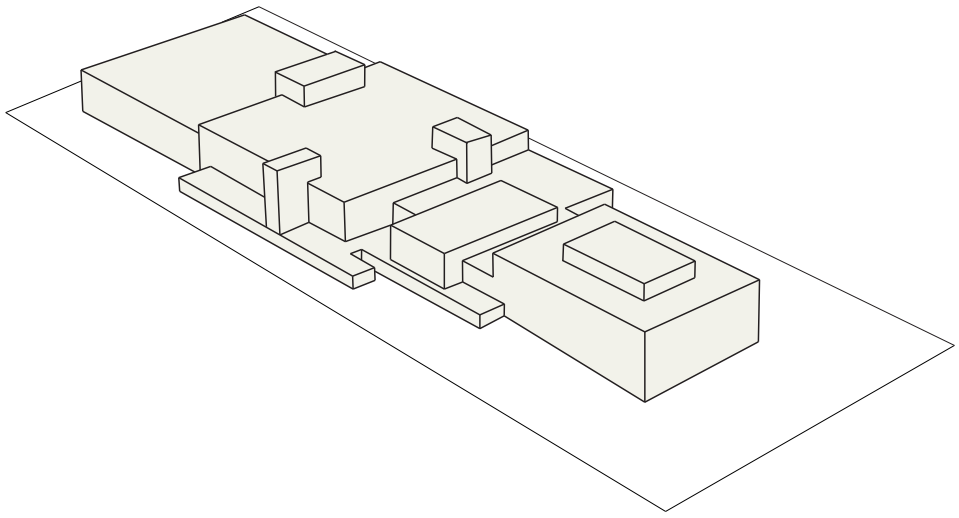
The following design principle diagrams explain the design decisions leading to the proposed concept design.

2.1 SITE



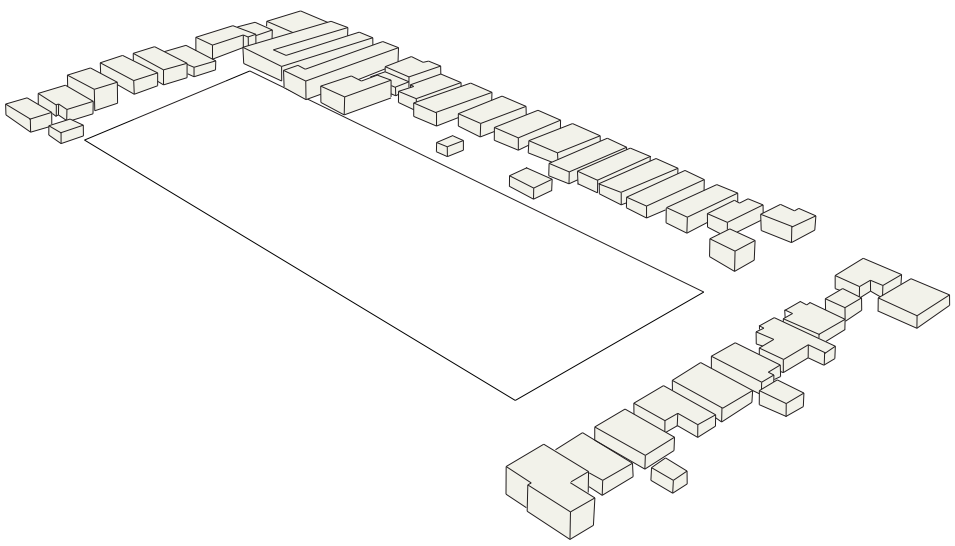
Site Area: 12,620 m²

2.2 EXISTING BUILDING



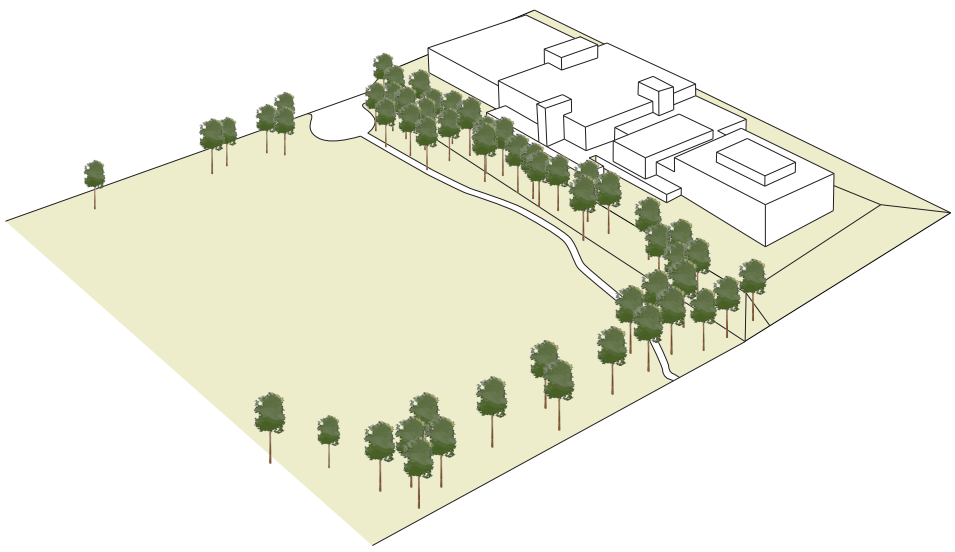
The site was formerly occupied by Vision Australia
3 Storey Building
Site coverage : 5,500 m2
Site coverage % : 44%
Deep soil : 3,620 m2
Deep soil % : 28%
Height of Building : 4-15m

2.3 SURROUNDING BUILDINGS



The site is surrounded by single and 2 storey residential dwellings

2.4 HENLEY PARK



Existing trees in Henley Park

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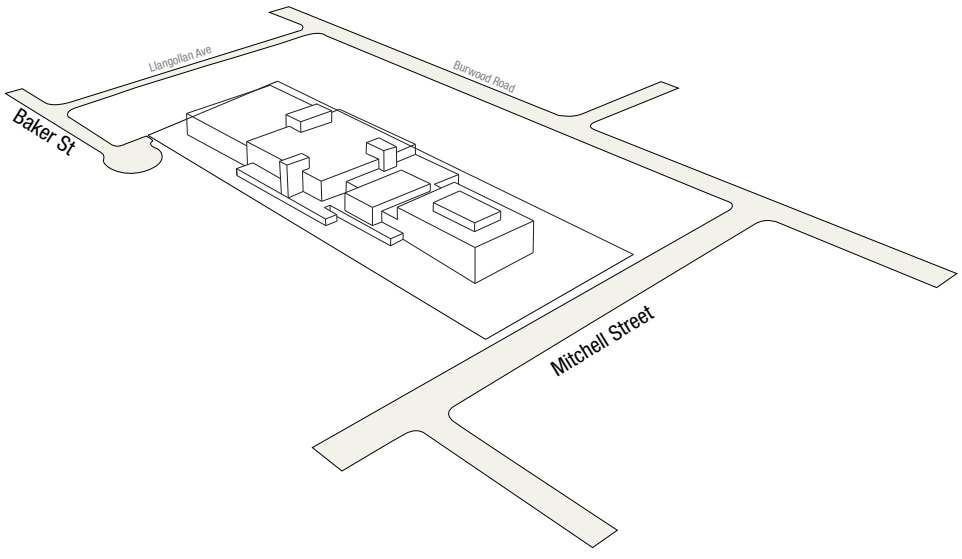
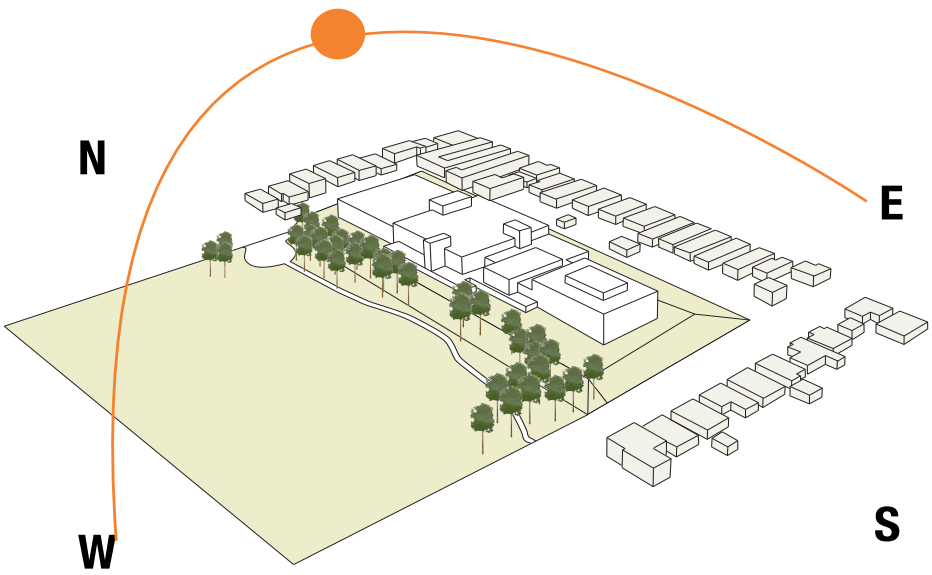
2.5 STREET CONTEXT



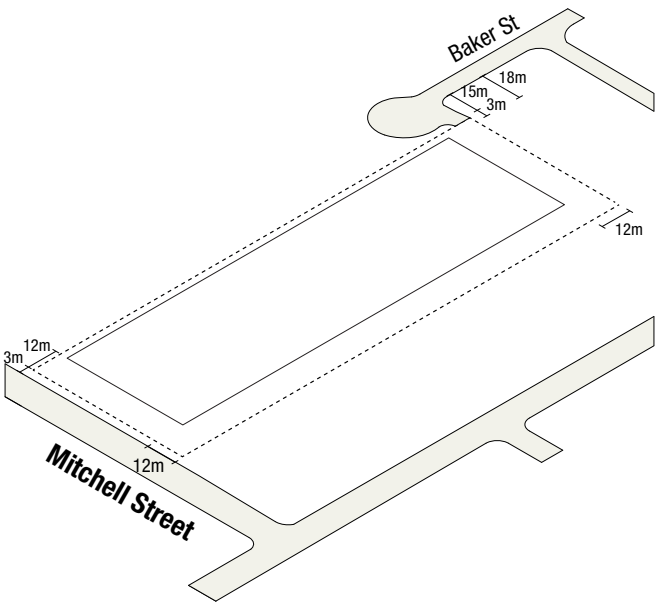
Mitchell Street runs parallel to the sites southern boundary and Baker street terminates in the north west corner of the site.

2.6 EXISTING TREES AND PARK + SUN TRAJECTORY



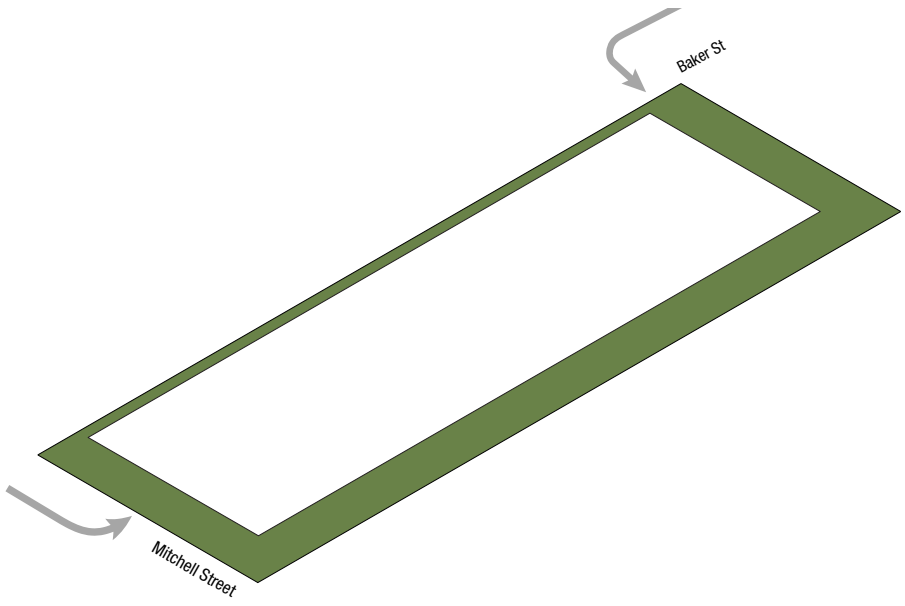
Block runs north-south length wise.

2.7 SETBACKS FROM BOUNDARIES



Mitchell Street Boundary Setback:	12m
East Boundary Setback:	12m
North boundary Setback:	12m
Henley Park (West) boundary setback:	3m

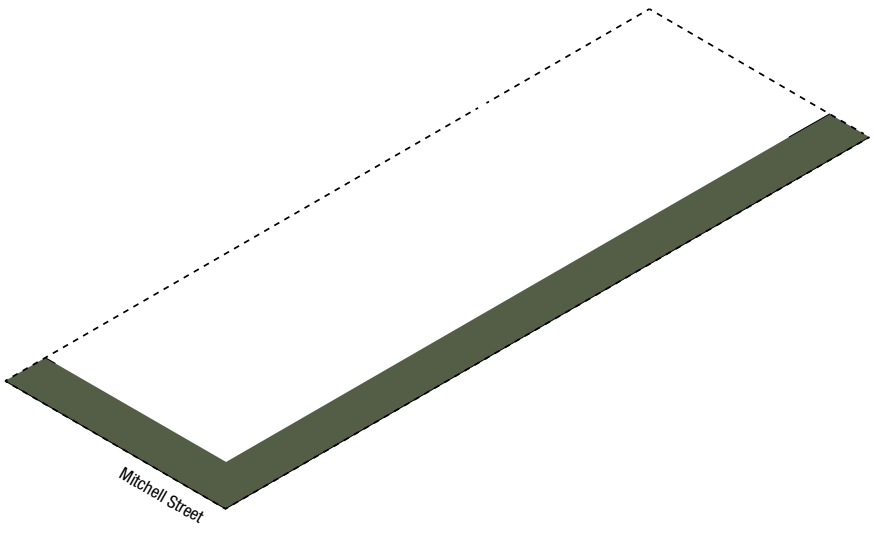
2.8 LANDSCAPED AND ACCESS



The site setbacks allow for access and substantial landscaping to the boundary of the site

Area:	3,900 m²
Percentage:	30%

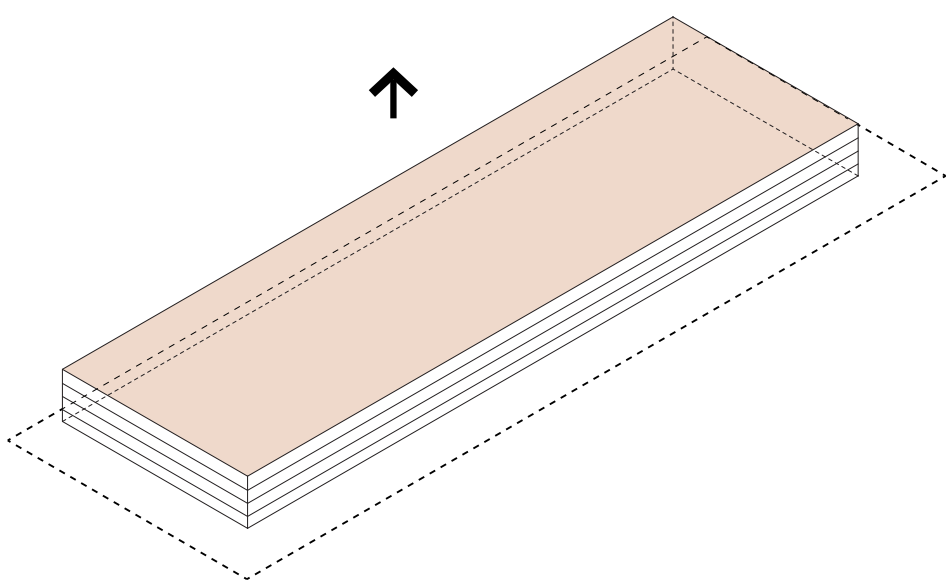
2.9 DEEP SOIL



Area: 1,630 m^2
Percentage: 8%

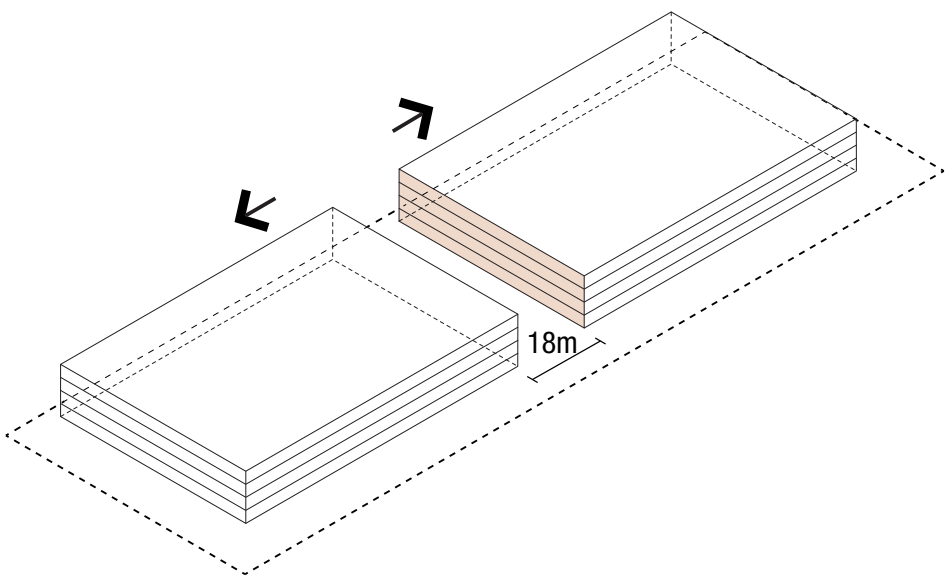
SEPP65 Requirement: 7%

2.10 BUILDING MASS



Building envelope created assuming 4 levels above natural ground

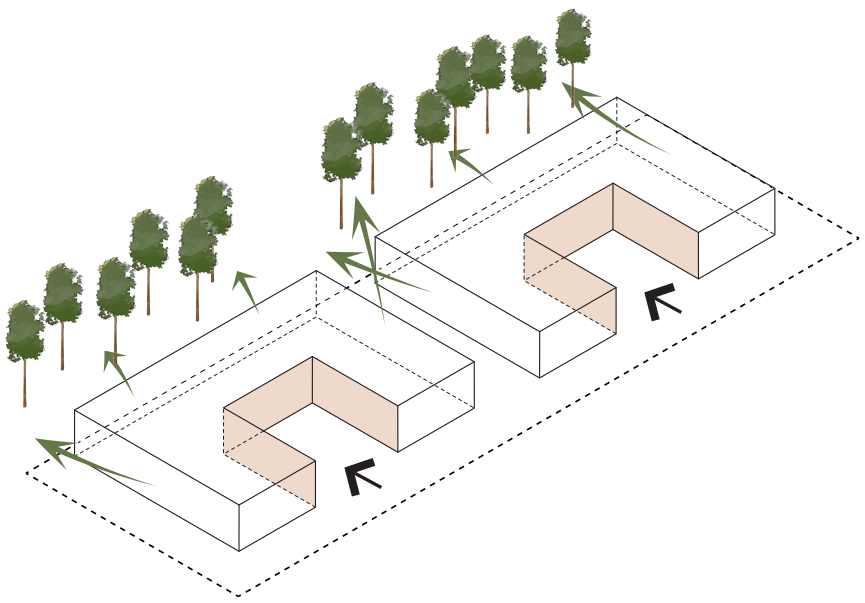
2.11 SEPARATION - 2 BUILDINGS



Building mass separated to create 2 addressed frontages; one to Mitchell Street and the other to Baker Street.

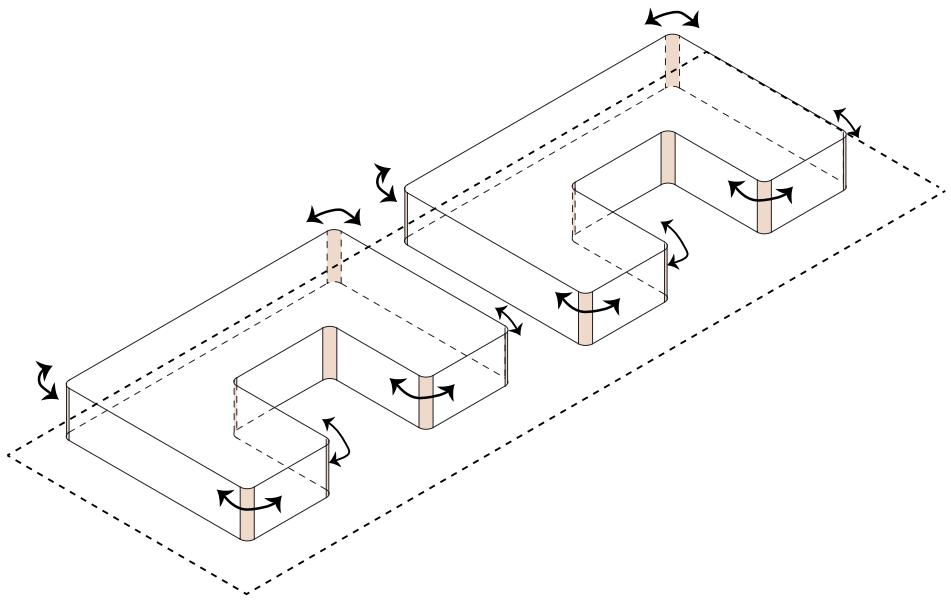
Opportunity for site connection to Henley Park created in the centre of the site. Separation between buildings increased from 12m to 18m.

2.12 PREFERRED OPTION



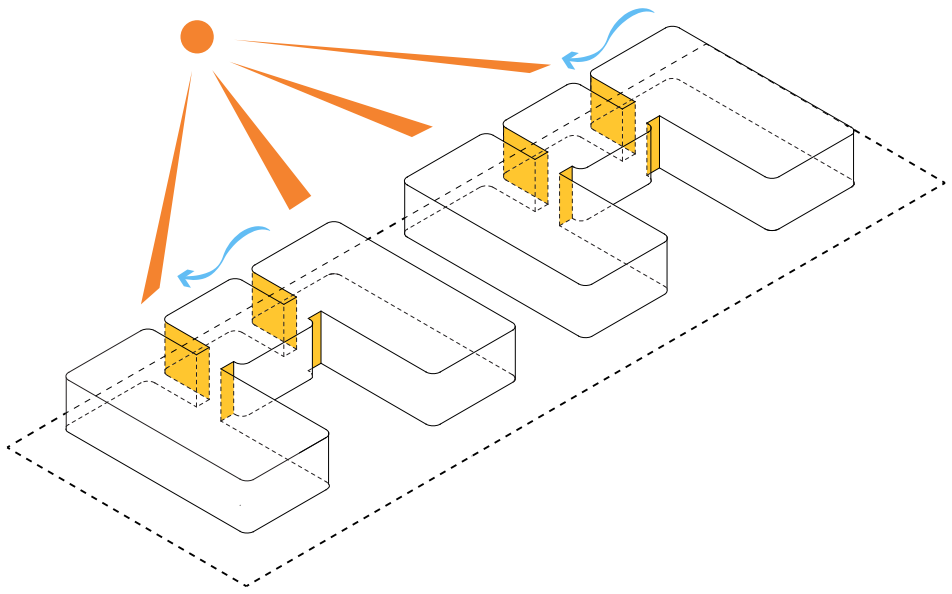
The 2 building forms provide maximum views to Henley Park and create intimate Eastern facing courtyards.

2.13 BUILDING CURVATURE



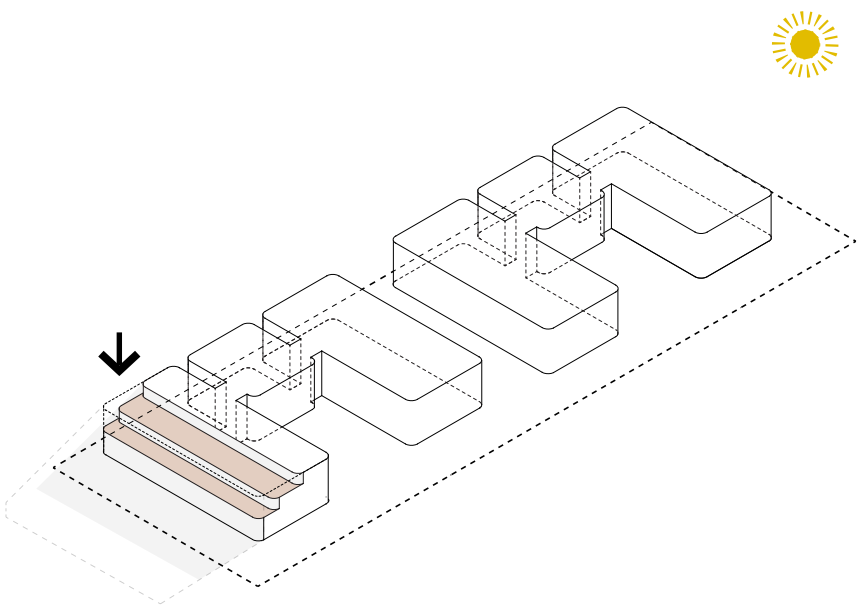
Building edges rounded to reduce building mass

2.14 BUILDING BREAKS



Building breaks increased from 2.2m to 3.5m allowing for solar access and ventilation

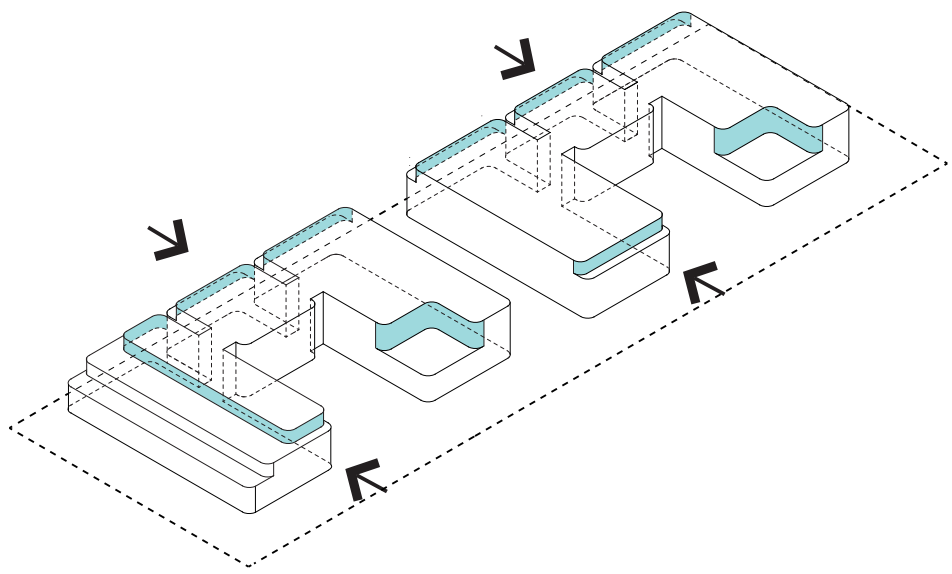
2.15 BOUNDARY SHADOW



Stepping in the building mass eliminates overshadowing of Mitchell Street properties at 9:00am during the winter solstice (21 June).

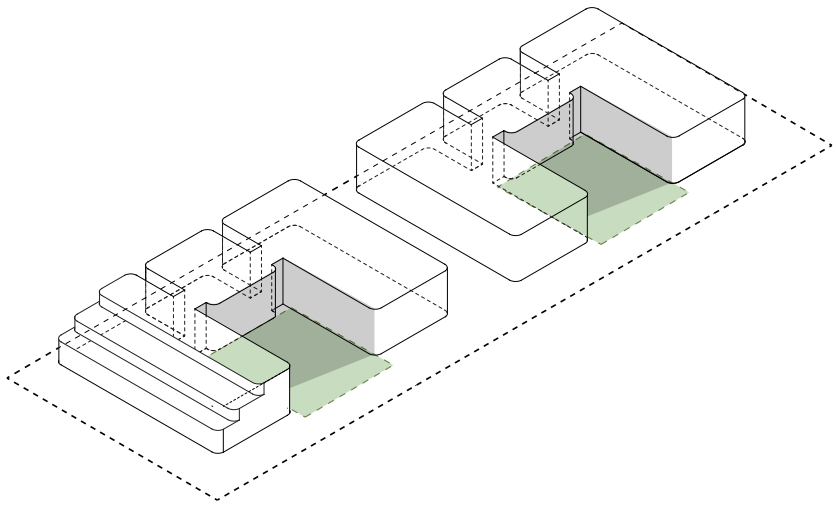
The stepping also creates a height variation reflecting the existing Vision Australia building and responds to the scale of Mitchell Street properties.

2.16 SETBACK - UPPER LEVEL



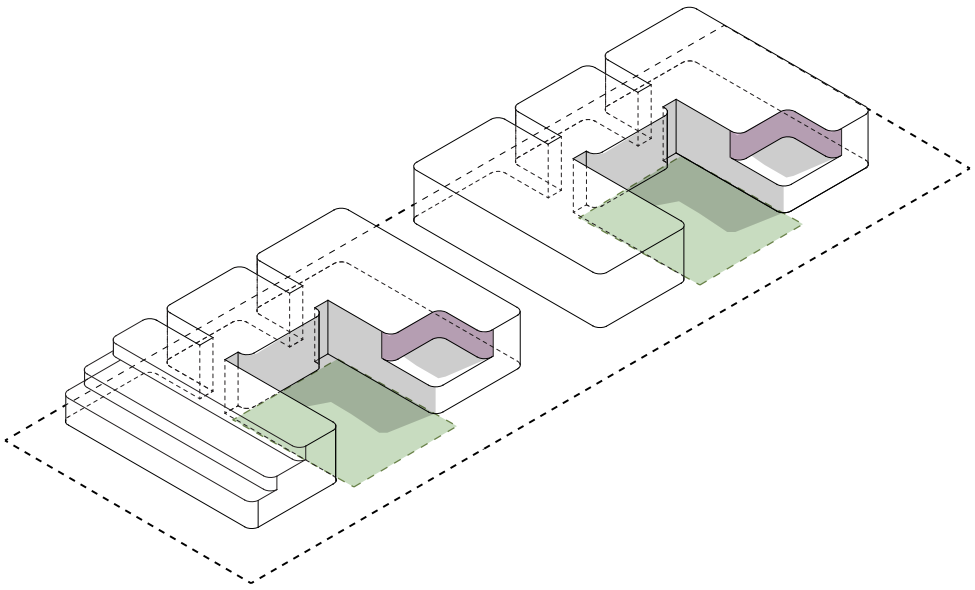
The building is further recessed at the upper levels to allow for height variation, to increase environmental performance and reduce overall building bulk.

2.17 INITIAL PRINCIPAL COMMUNAL OPEN SPACE



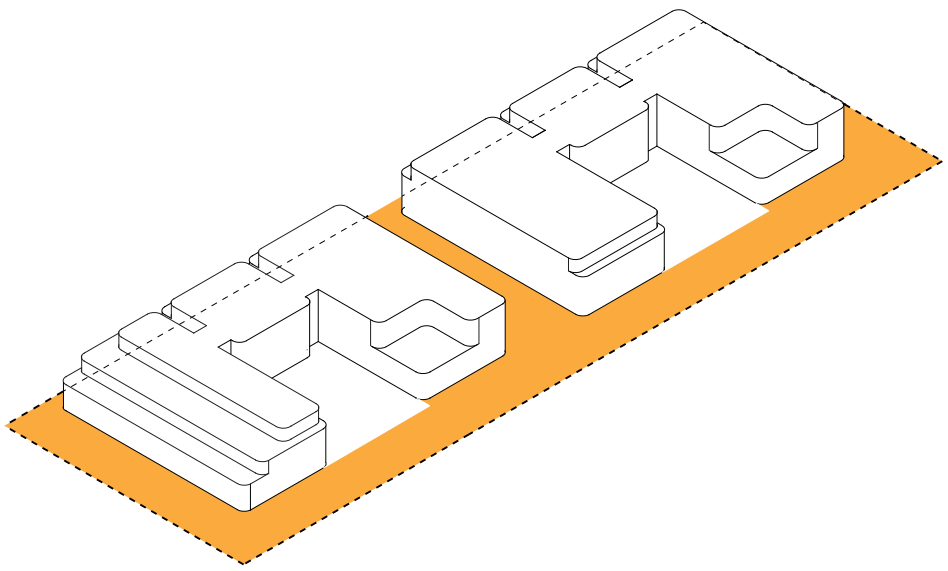
The initial building shape allowed for 2 hours of direct sunlight into the principal useable part of the communal open space in accordance with ADG requirements.

2.18 PRINCIPAL COMMUNAL OPEN SPACE



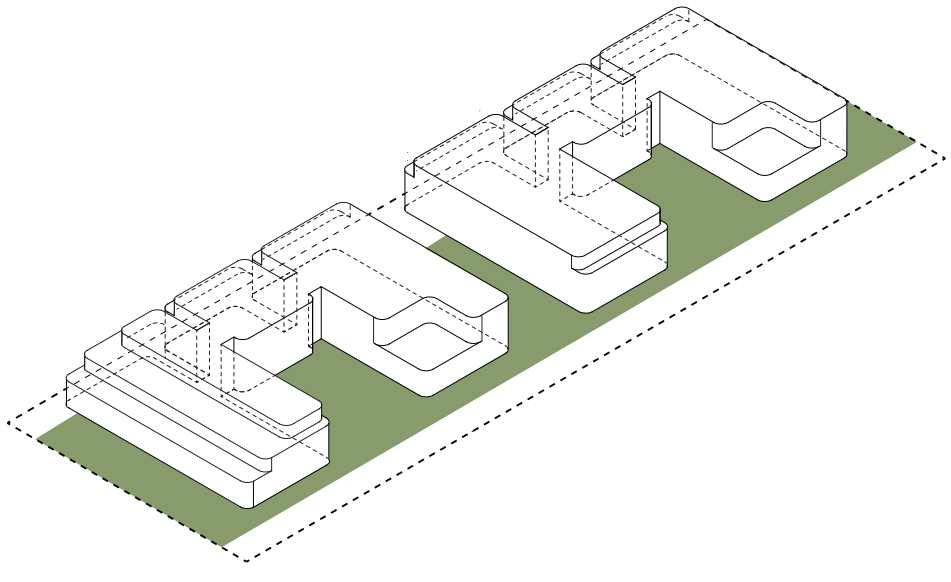
Further analysis of the building mass resulted in stepping that allowed for 3 hours of direct sunlight into the principal useable part of the communal open space, exceeding ADG requirements.

2.19 PUBLIC SPACES



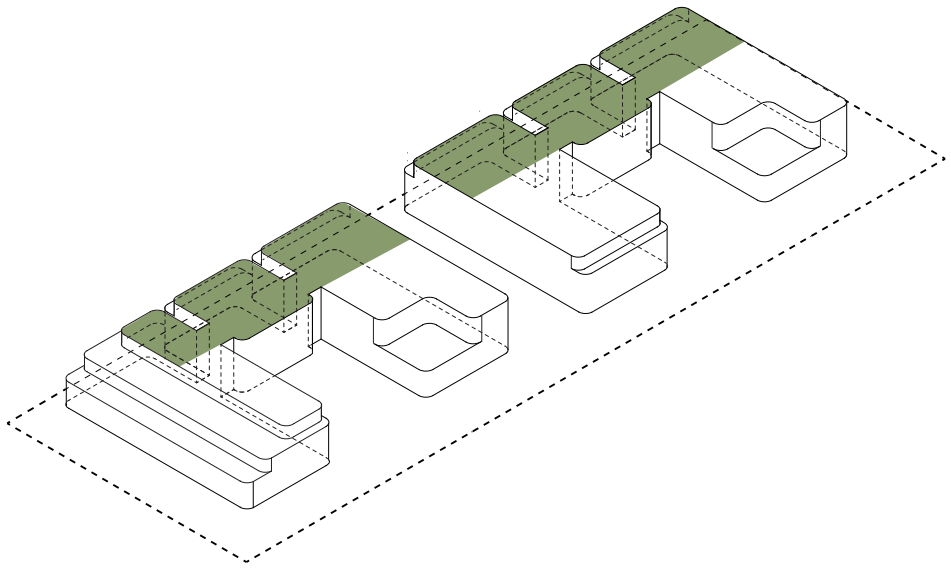
The building form allows the potential for public access across the site and connection to Henley Park and the wider community.

2.20 COMMUNAL OPEN SPACE - GROUND LEVEL



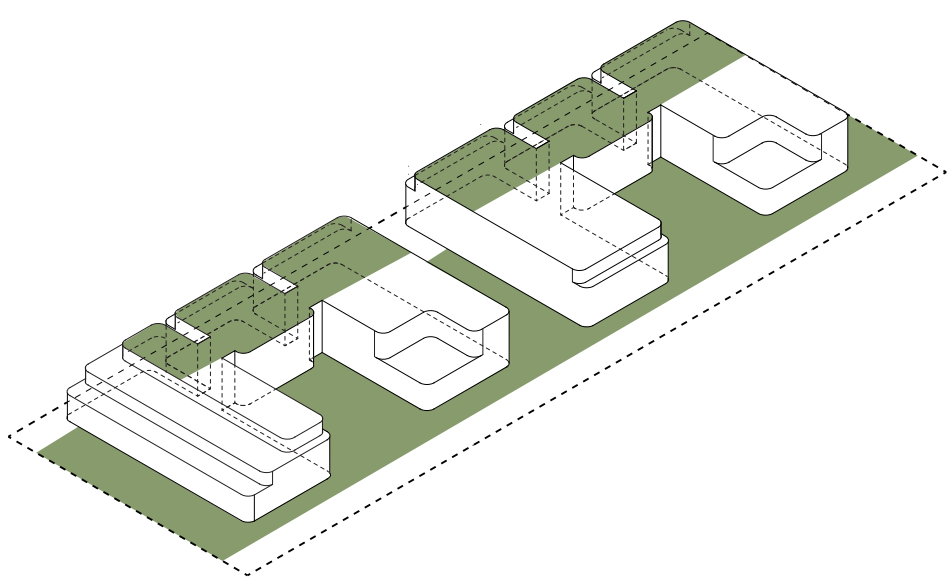
Area: 3,890 m²
Percentage: 31%

2.21 COMMUNAL OPEN SPACE - ROOF



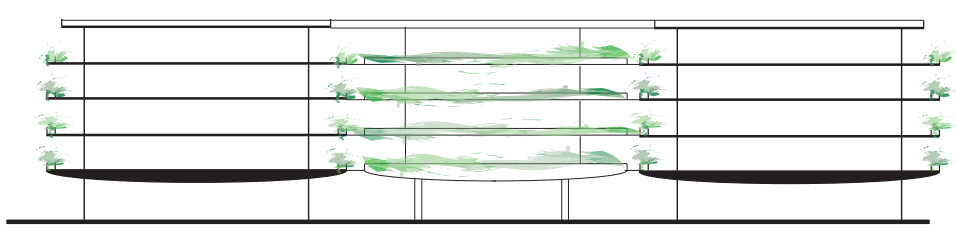
Area: 1,587 m²
Percentage: 12%

2.22 TOTAL COMMUNAL OPEN SPACE



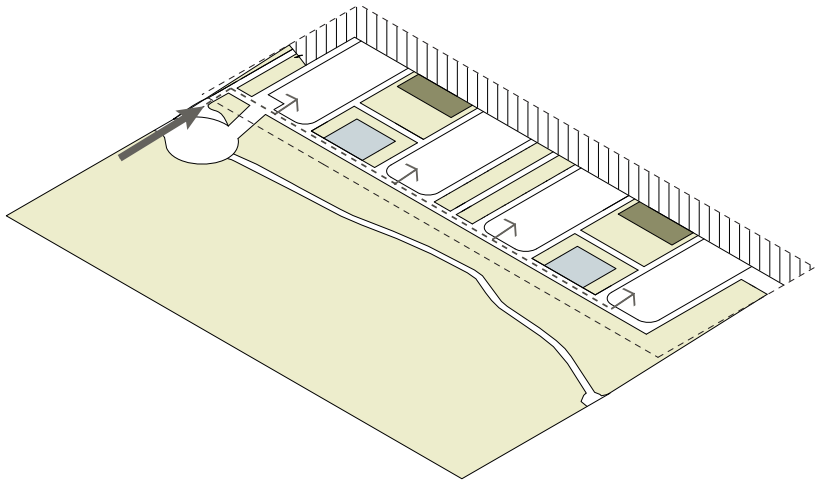
Area: 5,477 m²
Percentage: 43%

2.23 PLANTERS



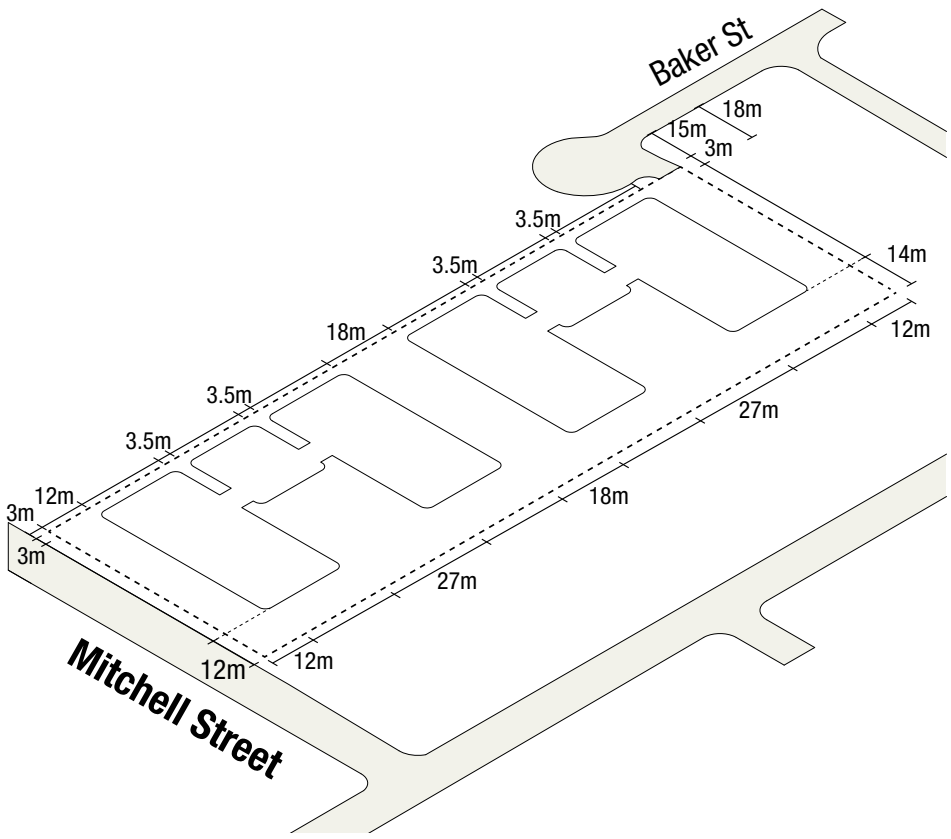
To enhance building amenity and its relationship with the landscape the building form has planters running along its length. This will provide enhanced environmental benefits, visual and acoustic privacy as well as amenity for residents and a softening of the facade.

2.24 PARK CONNECTION TO SITE



The site allows for 2 access points and connections to Henley Park; one from Mitchell Street and the other from Baker Street.

2.25 BUILDING SETBACKS



Mitchell Street Boundary Setback:	12m
East Boundary Setback:	12m
North boundary Setback:	12m
Henley Park (West) boundary setback:	3m
Building separation:	18m

3.0 SITE CONCEPT DESIGN

3.1 SITE CONCEPT DESIGN

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Scale 1:1000

3.2 SITE CONCEPT LANDSCAPE DESIGN

GROUND FLOOR LANDSCAPE DESIGN

ROOF PLAN LANDSCAPE DESIGN

3.3 CONCEPT DESIGN STATEMENT

Over the past 8 months Bureau of Urban Architecture (Bureau) have worked collaboratively with our client, Tian An Australia, Cardno and Burwood Council staff through a series of design workshops and presentations to create an Amended Planning Proposal submission to improve upon the original Planning Proposal submission design by a previous architectural firm.

Bureau's scheme creates 2 x U-shaped buildings that allow the largest number of apartments possible to have either frontal or oblique views of Henley Park.

By creating 2 buildings on the site separated by a 18m wide landscape space in the middle each building has a Henley Park address as well as a street address, either Mitchell Street or Baker Street.

These 2 buildings are much lower than the previous heights of buildings proposed for the site and they fit comfortably within a 18m height limit.

Each building is also conceived around a communal open space courtyard that is circa 25m x 28m so that non-park facing apartments can enjoy a generous landscape outlook. This design strategy has the added benefit of creating a circa 40m setback to the rear boundaries. Setback distances from the North, South and Eastern boundaries are circa 12m and 14m whilst adopting a more typical setback from the Western or Henley Park boundary.

We have designed the Mitchell Street frontage in a stepped form to diminish is bulk and scale having the added benefit of not creating new sun-shadows that would affect any Mitchell Street properties.

Forming an affinitive relationship between built form and Henley Park was a high priority so we created a curved all the corners of the buildings, created a continuous 1m deep balcony planter detail wrapping around every floor plate and created a completely landscapes roof garden so that each building would take on an organic appearance.

Our courtyard apartment design typology increases both amenity and environmental standards for the benefits of the residents. Landscaped courtyard entries are combined with natural light and ventilated lift lobbies. Oversized and fire engineered glazed fire stairs with central light well and skylight provide the ability to access natural light at each level to encourage the use of stairs in the building.

3.4 CONCEPT DESIGN PERSPECTIVES

HENLEY PARK PERSPECTIVE VIEW

MITCHELL STREET PERSPECTIVE VIEW

BAKER STREET PERSPECTIVE VIEW

3.4 CONCEPT DESIGN PERSPECTIVES

HENLEY PARK CLOSEUP PERSPECTIVE VIEW

4.0 INDICATIVE PLANS

4.1 INDICATIVE SITE PLAN

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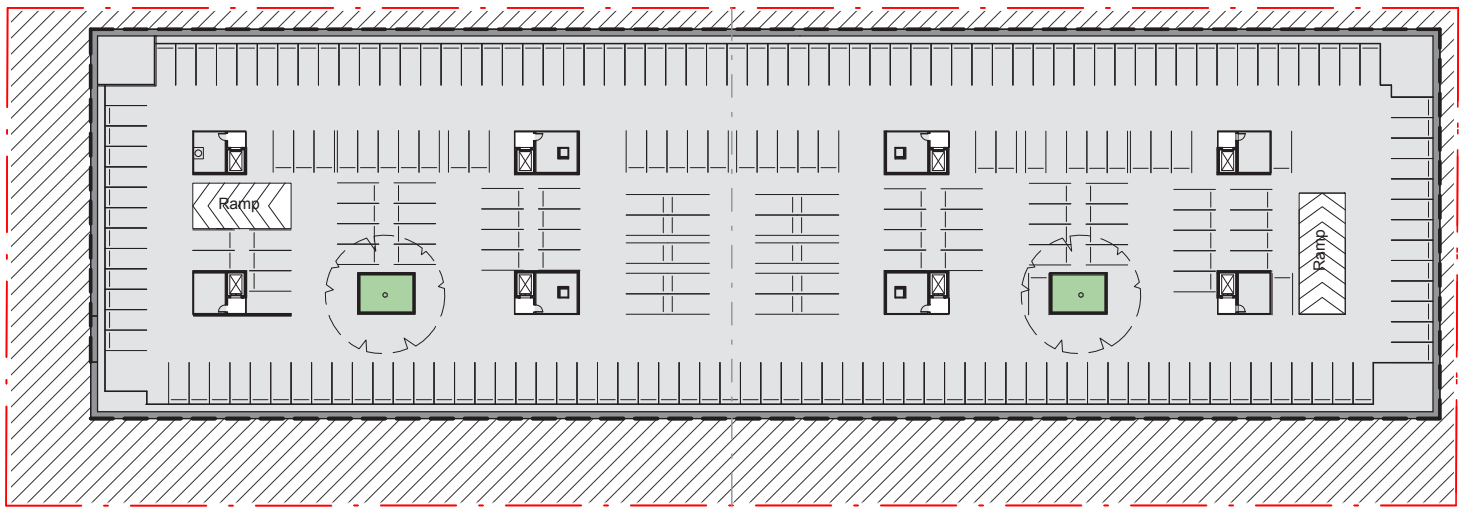
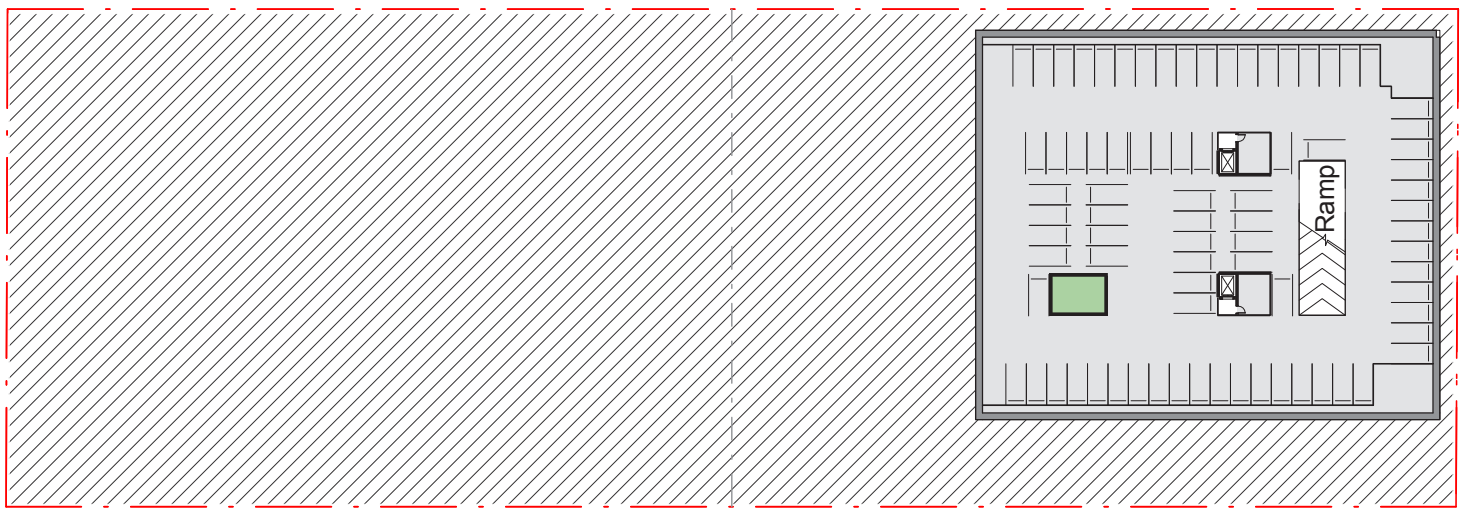
Scale 1:1000

4.2 INDICATIVE BASEMENT 01 + 02 PLANS



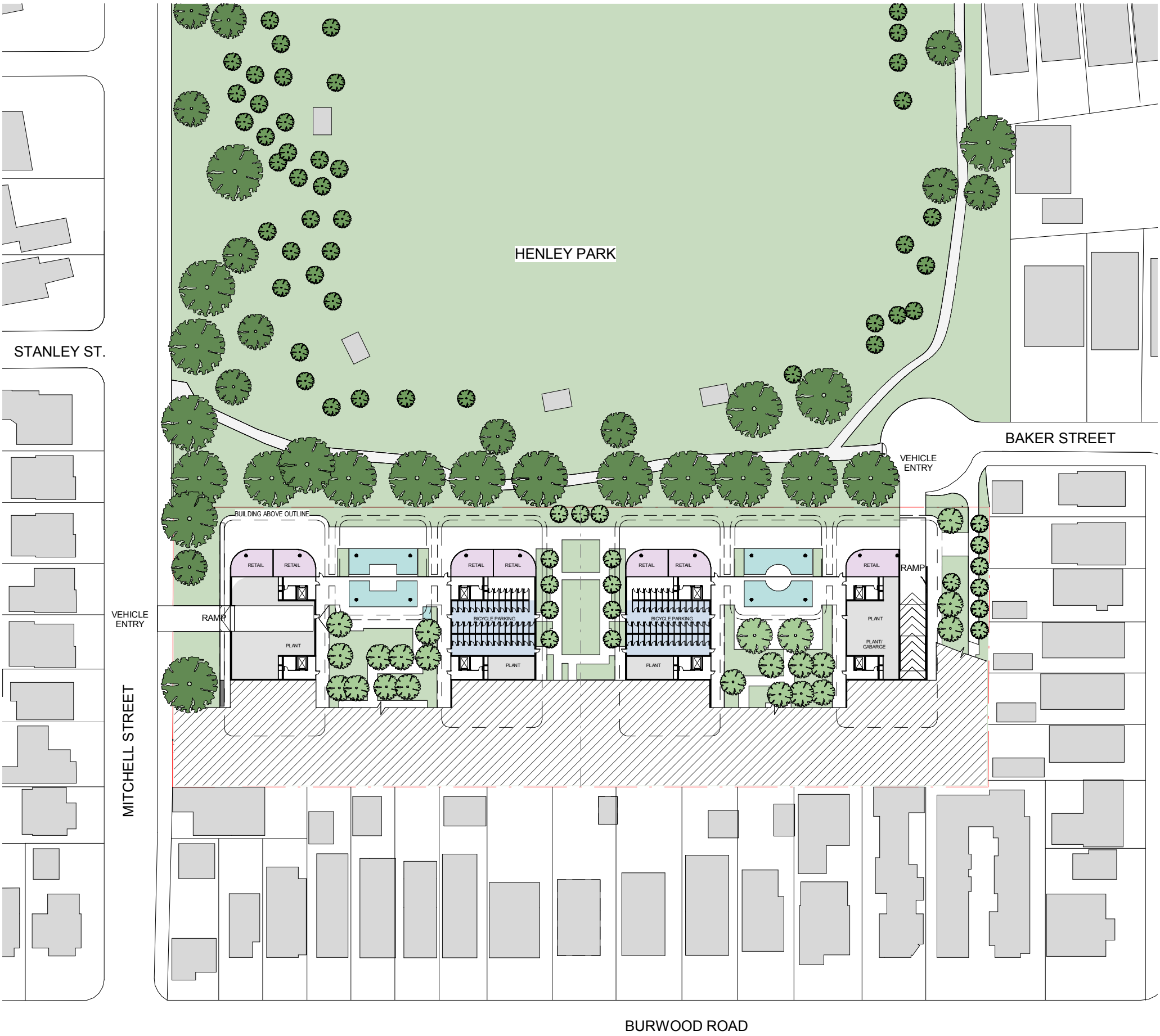
BASEMENT -1 LEVEL



BASEMENT -2 LEVEL

Scale 1:1000

4.3 INDICATIVE LOWER GROUND PLAN



BUREAU
BUREAU OF URBAN ARCHITECTURE

Scale 1:1000

4.4 INDICATIVE GROUND LEVEL PLAN

BUREAU
BUREAU OF URBAN ARCHITECTURE

Scale 1:1000

4.6 INDICATIVE LEVEL 01 PLAN

BUREAU
BUREAU OF URBAN ARCHITECTURE

Scale 1:1000

4.7 INDICATIVE LEVEL 02 PLAN

BUREAU
BUREAU OF URBAN ARCHITECTURE

Scale 1:1000

4.8 INDICATIVE LEVEL 03 PLAN

BUREAU
BUREAU OF URBAN ARCHITECTURE

Scale 1:1000

4.9 INDICATIVE ROOF LEVEL PLAN

BUREAU
BUREAU OF URBAN ARCHITECTURE

Scale 1:1000

5.0 DETAIL PLANS

5.1 DETAIL GROUND LEVEL PLAN (BUILDING 1)

BUREAU
BUREAU OF URBAN ARCHITECTURE

Scale 1:300

5.2 DETAIL LEVEL 01 PLAN (BUILDING 1)

BUREAU
BUREAU OF URBAN ARCHITECTURE

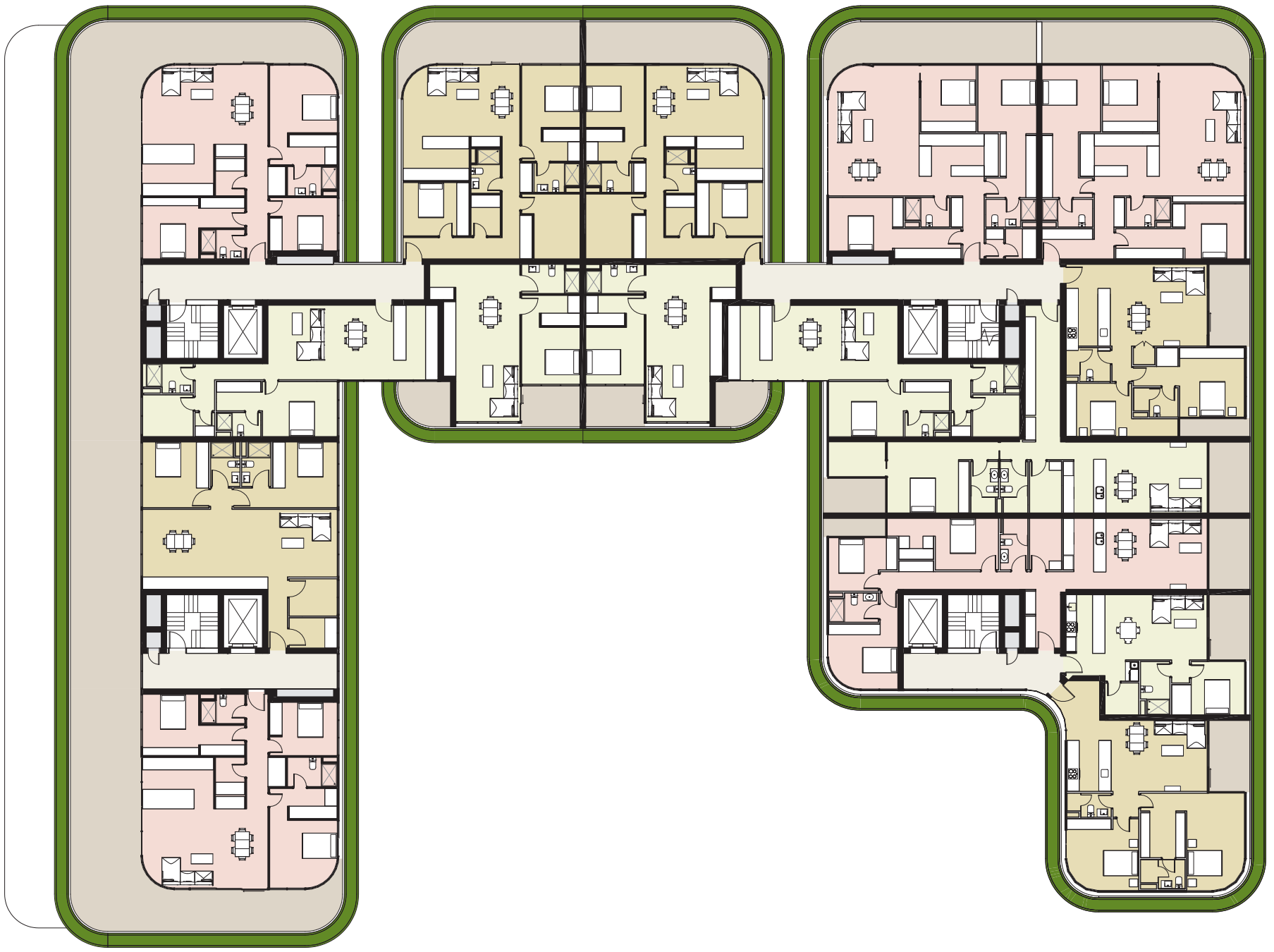
Scale 1:300

5.3 DETAIL LEVEL 02 PLAN (BUILDING 1)

BUREAU
BUREAU OF URBAN ARCHITECTURE

Scale 1:300

5.4 DETAIL LEVEL 03 PLAN (BUILDING 1)



BUREAU
BUREAU OF URBAN ARCHITECTURE

Scale 1:300

5.5 DETAIL GROUND LEVEL PLAN (BUILDING 2)

BUREAU
BUREAU OF URBAN ARCHITECTURE

Scale 1:300

5.6 DETAIL LEVEL 01 PLAN (BUILDING 2)

BUREAU
BUREAU OF URBAN ARCHITECTURE

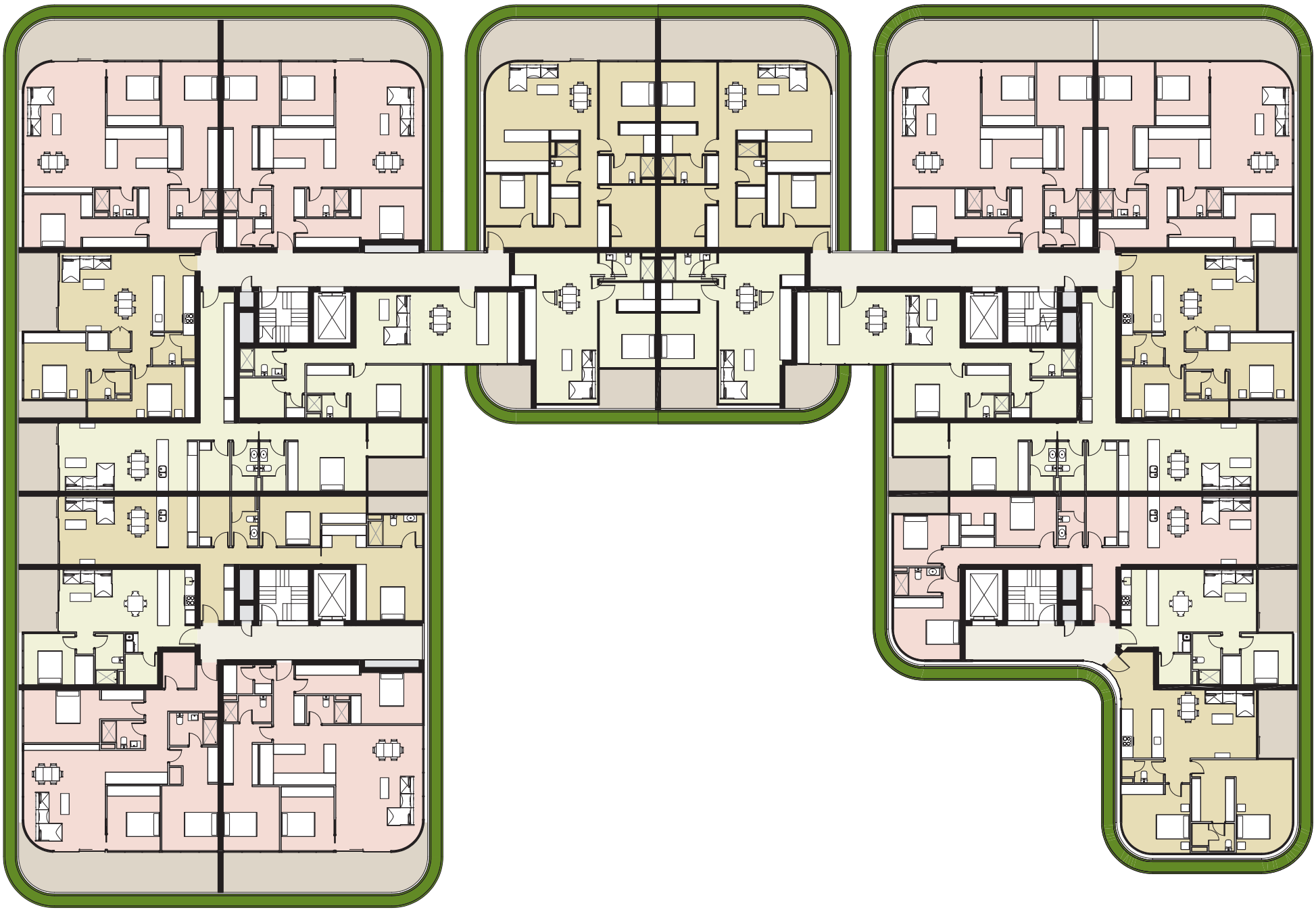
Scale 1:300

5.7 DETAIL LEVEL 02 PLAN (BUILDING 2)

BUREAU
BUREAU OF URBAN ARCHITECTURE

Scale 1:300

5.8 DETAIL LEVEL 03 PLAN (BUILDING 2)

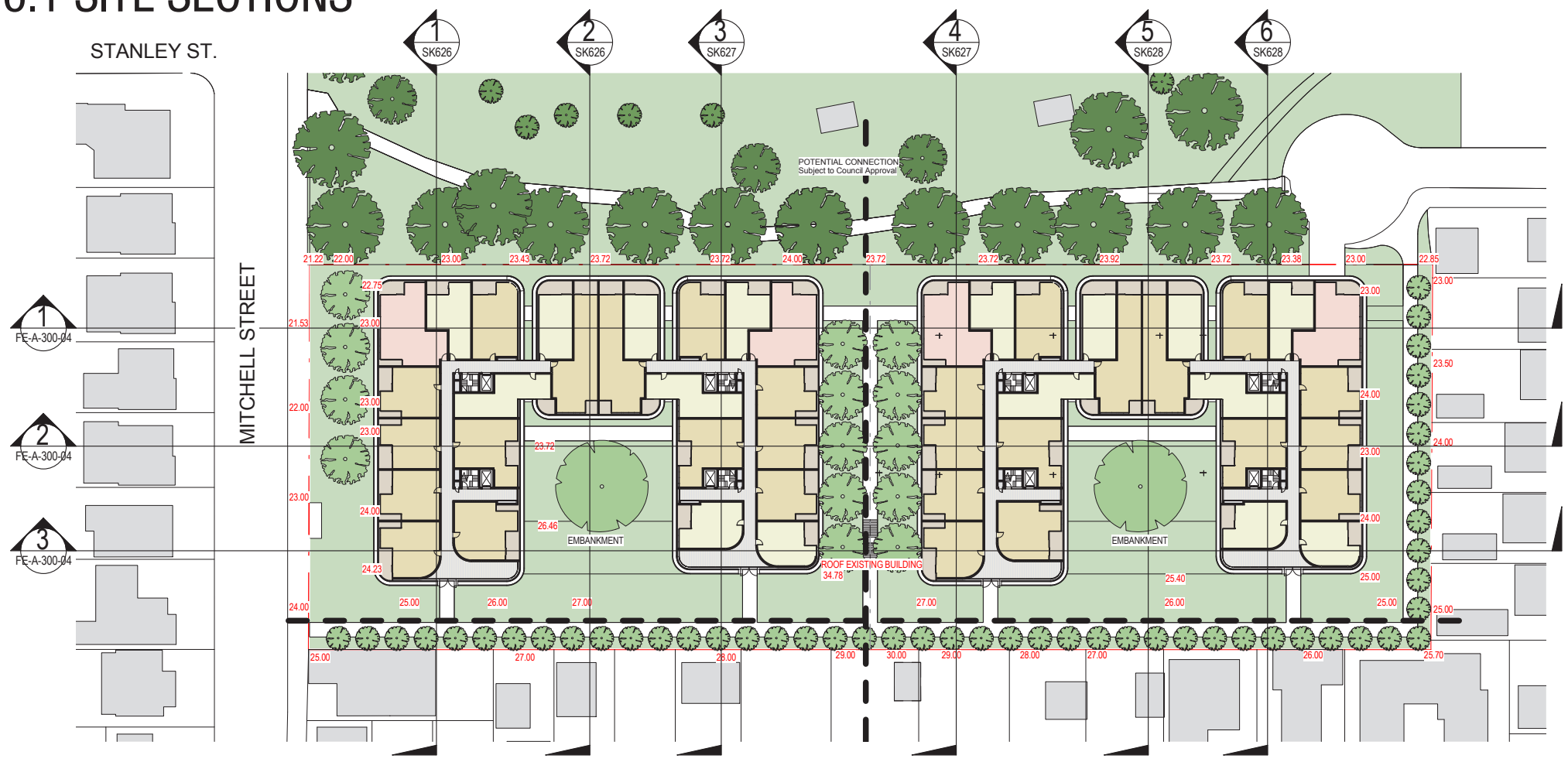


BUREAU
BUREAU OF URBAN ARCHITECTURE

Scale 1:300

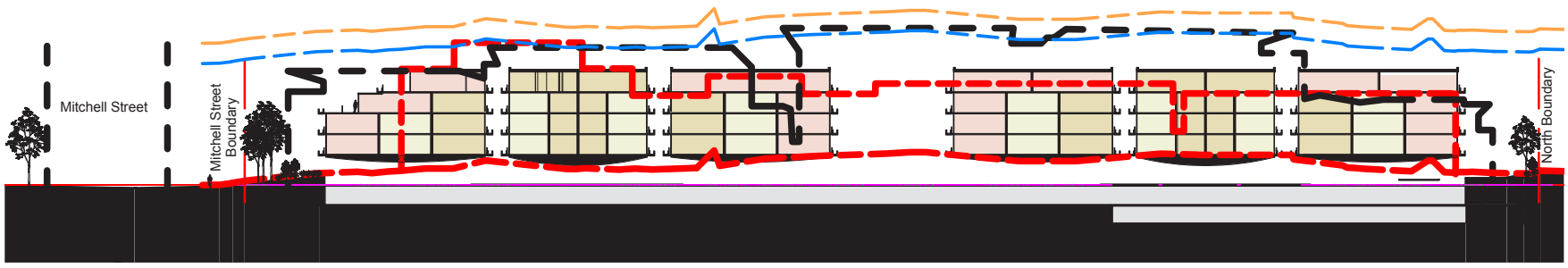
6.0 SITE SECTIONS

6.1 SITE SECTIONS

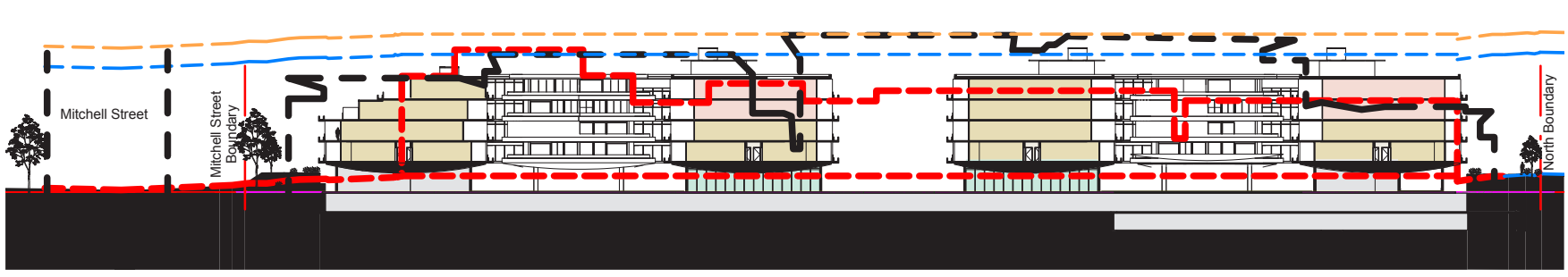


SECTION KEY + SURVEY

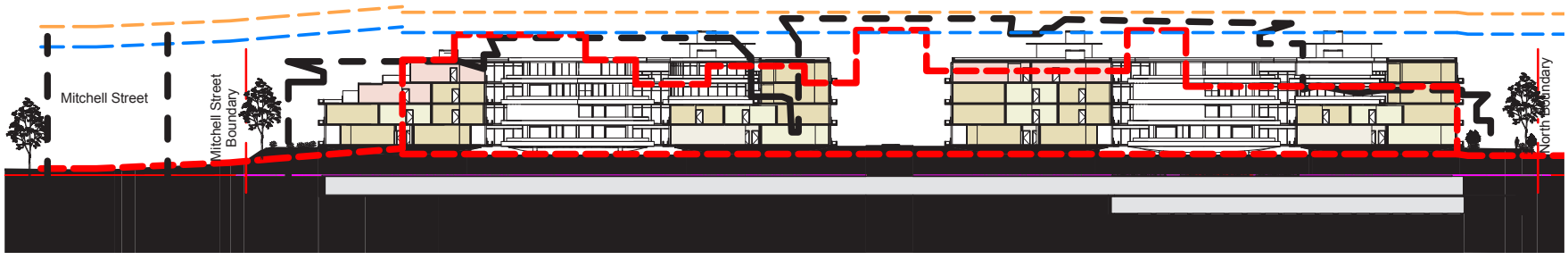
21m height DEM PP submission (excluding lift over run)
DEM PP proposed scheme outline
18m height proposed
Natural ground + existing building outline



1 - NORTH -SOUTH SECTION



2 - NORTH - SOUTH SECTION

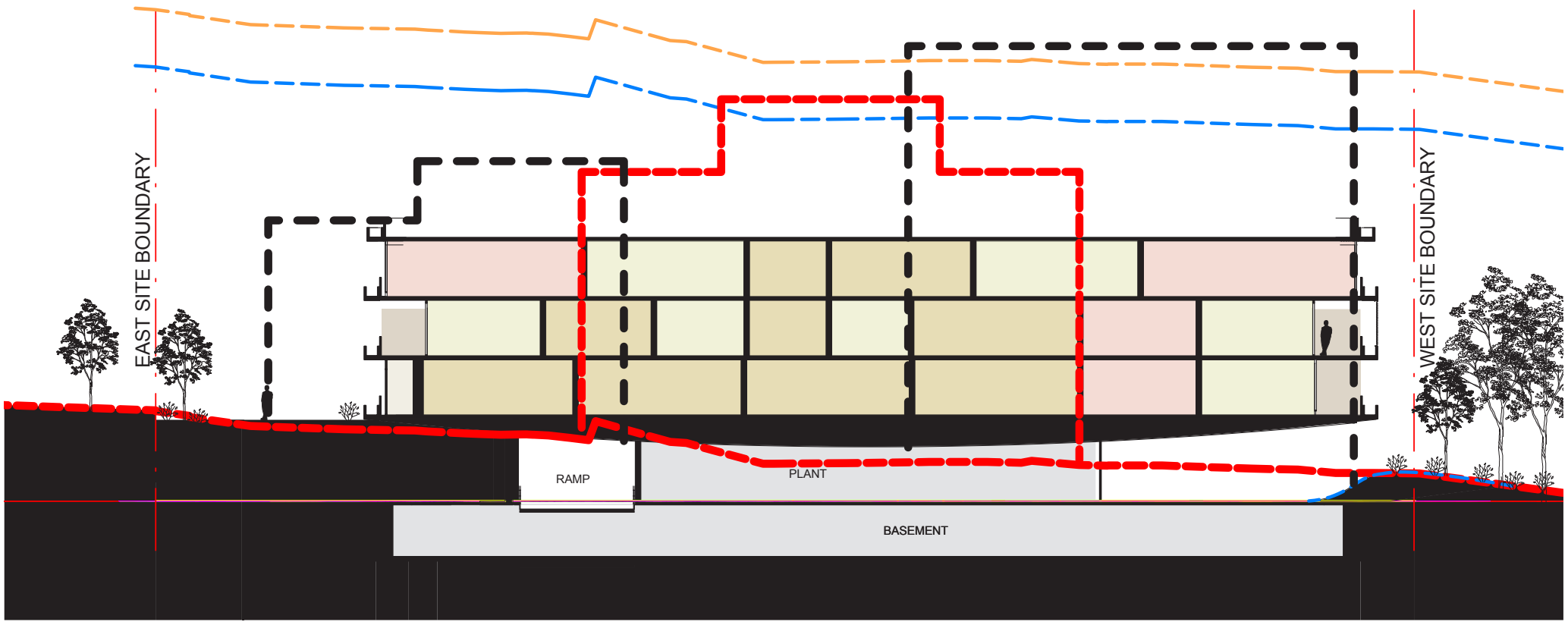


3 - NORTH - SOUTH SECTION

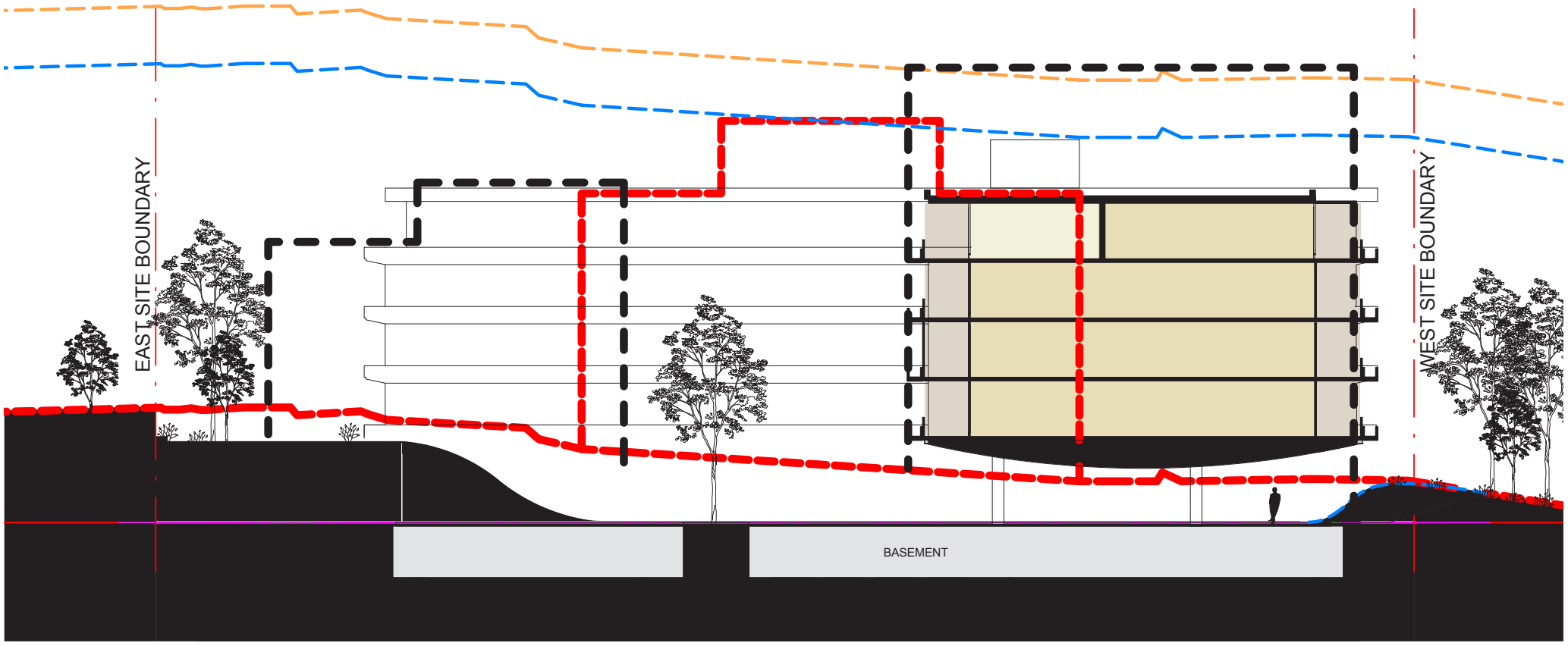
BUREAU
BUREAU OF URBAN ARCHITECTURE

Scale 1:1000

6.2 SECTIONS



1 - EAST / WEST SECTION



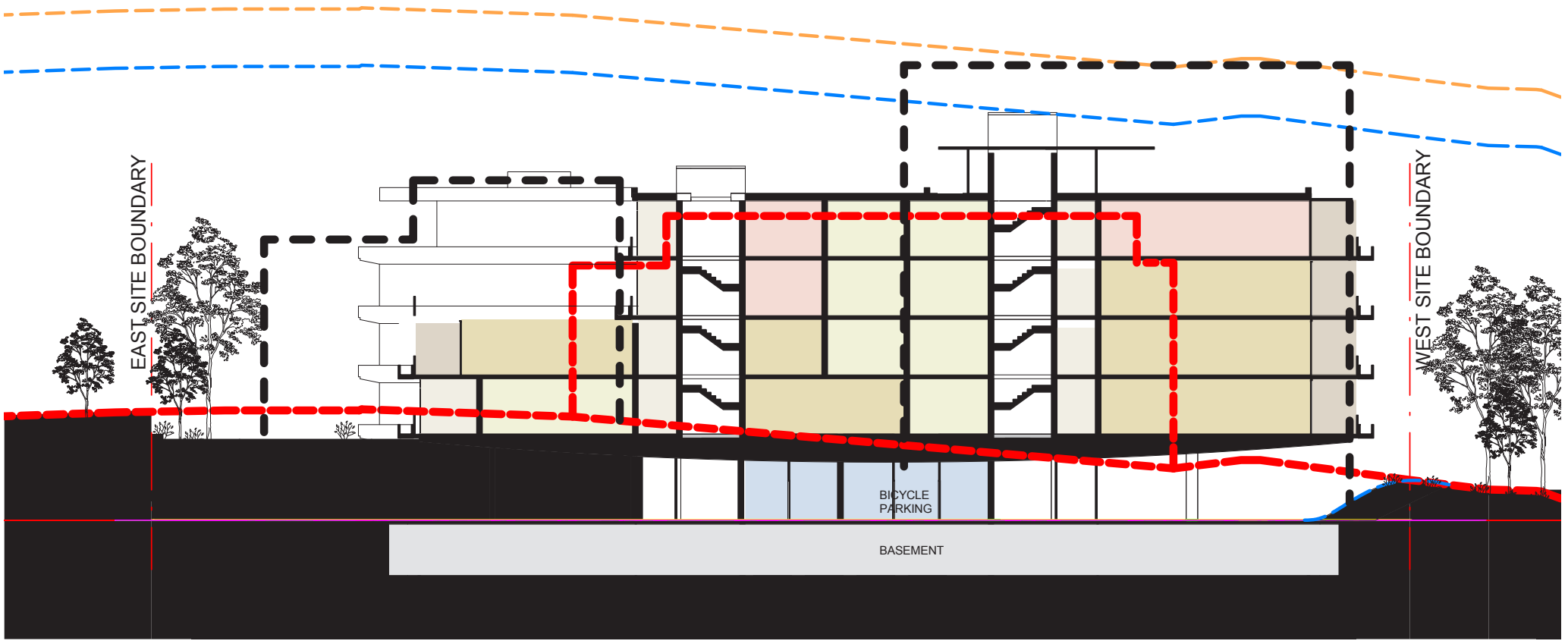
2 - EAST / WEST SECTION

21m height DEM PP submission (excluding lift over run)
DEM PP proposed scheme outline
18m height proposed
Natural ground + existing building outline

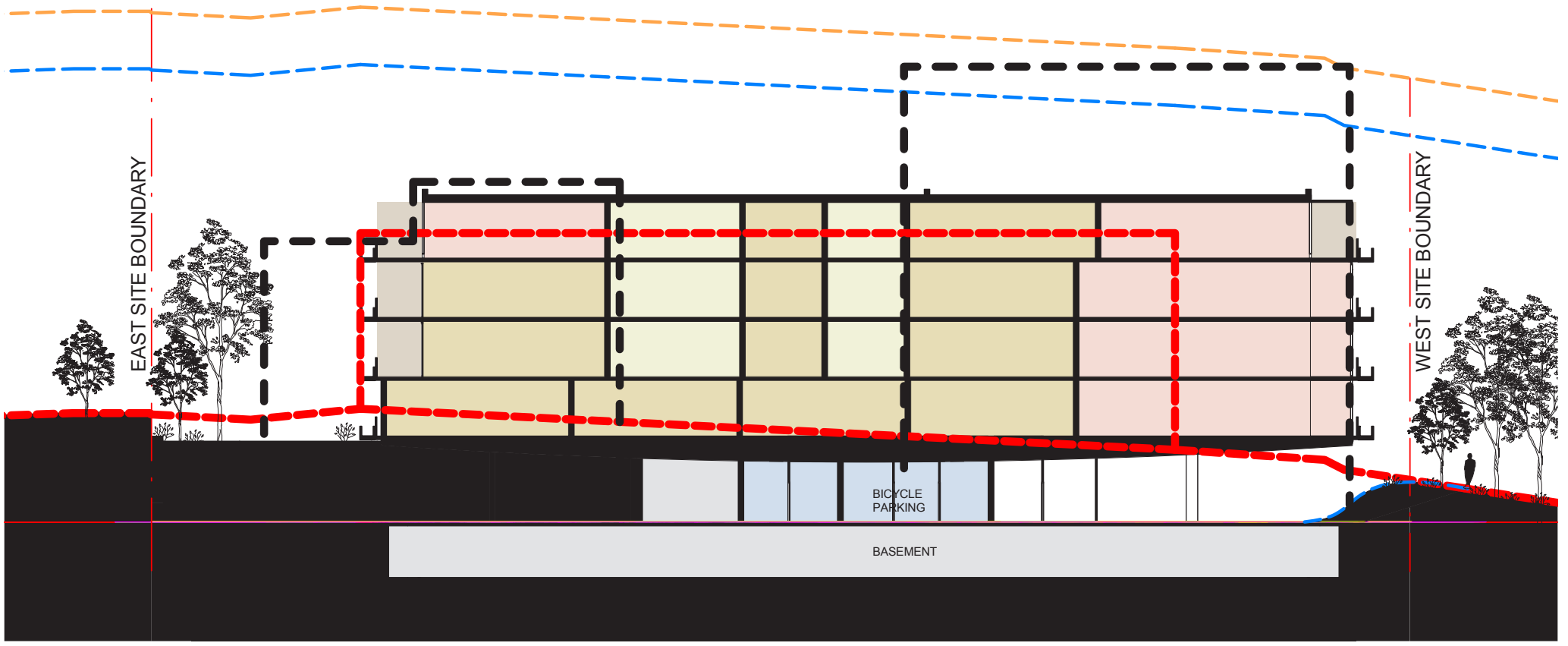
BUREAU
BUREAU OF URBAN ARCHITECTURE

Scale 1:300

6.2 SECTIONS



3 - EAST / WEST SECTION



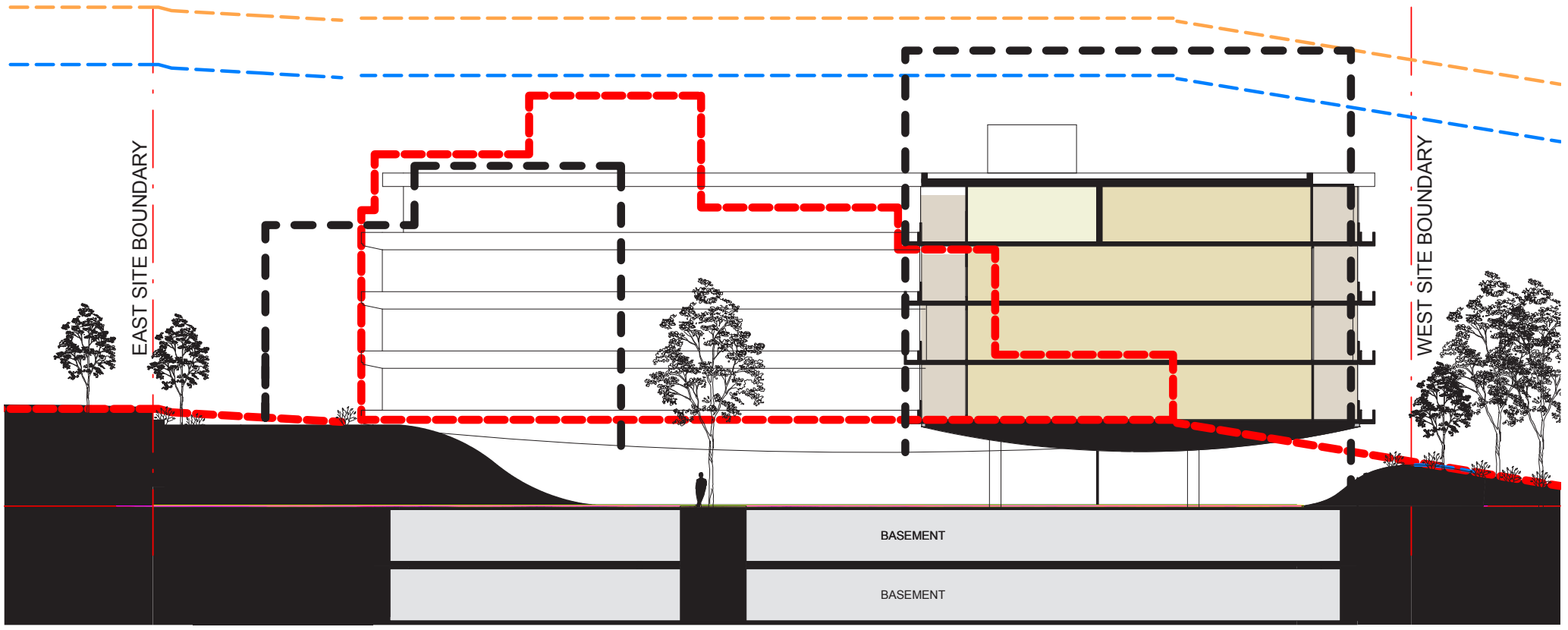
4 - EAST / WEST SECTION

21m height DEM PP submission (excluding lift over run)
DEM PP proposed scheme outline
18m height proposed
Natural ground + existing building outline

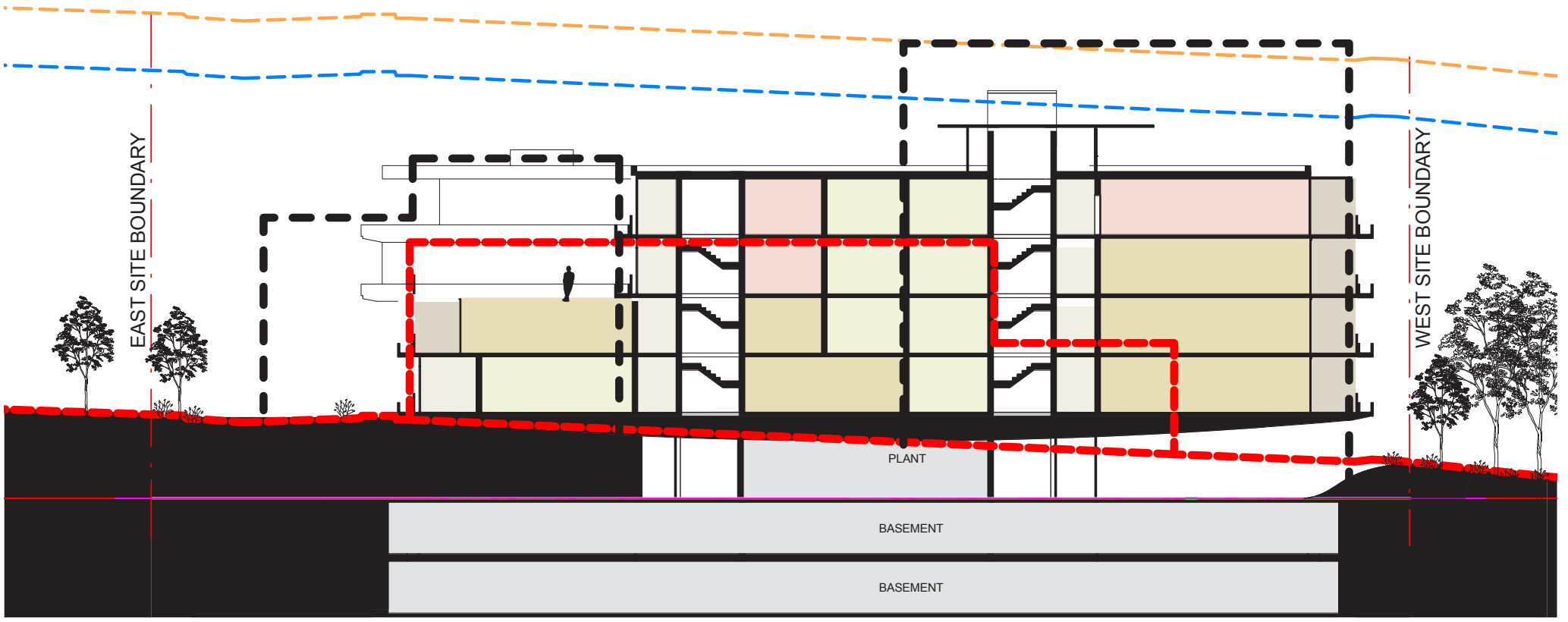
BUREAU
BUREAU OF URBAN ARCHITECTURE

Scale 1:300

6.2 SECTIONS



5 - EAST / WEST SECTION



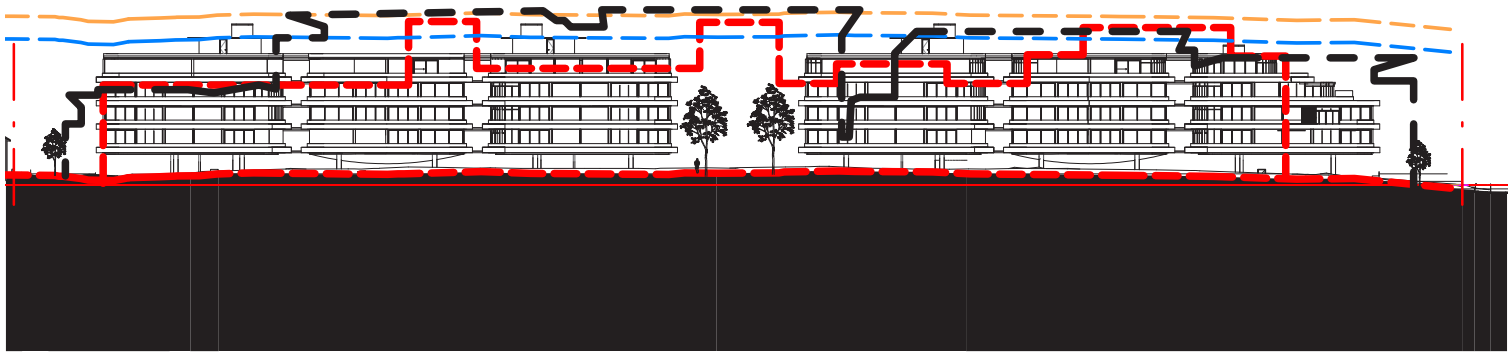
6 - EAST / WEST SECTION

21m height DEM PP submission (excluding lift over run)
DEM PP proposed scheme outline
18m height proposed
Natural ground + existing building outline

BUREAU
BUREAU OF URBAN ARCHITECTURE

Scale 1:300

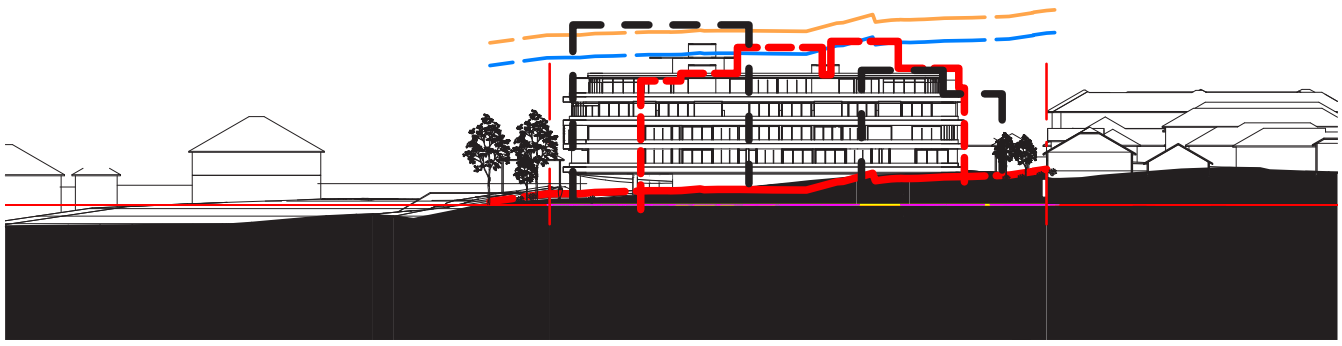
6.3 ELEVATIONS



WEST ELEVATION

EAST ELEVATION

NORTH ELEVATION



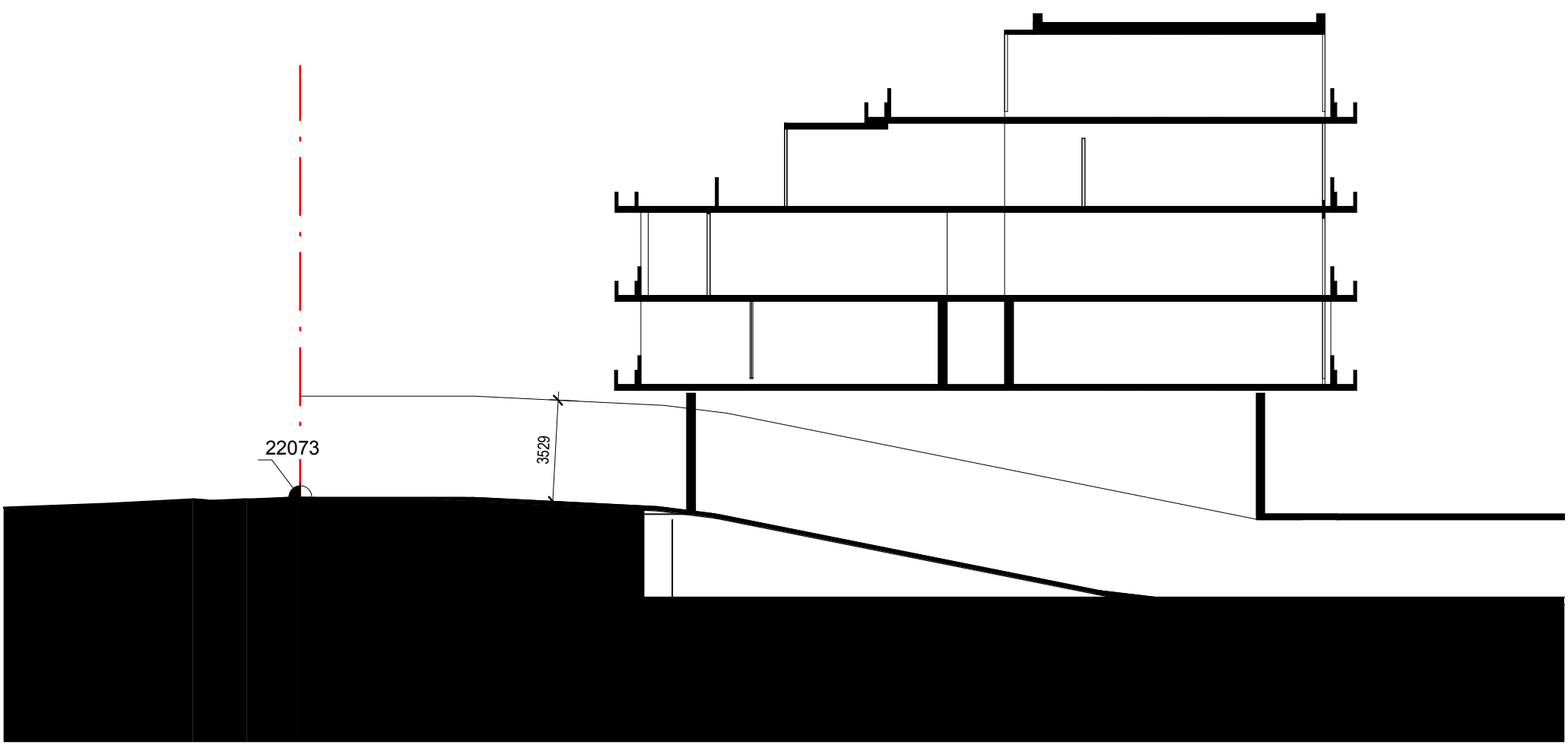
SOUTH ELEVATION

21m height DEM PP submission (excluding lift over run)
DEM PP proposed scheme outline
18m height proposed
Natural ground + existing building outline

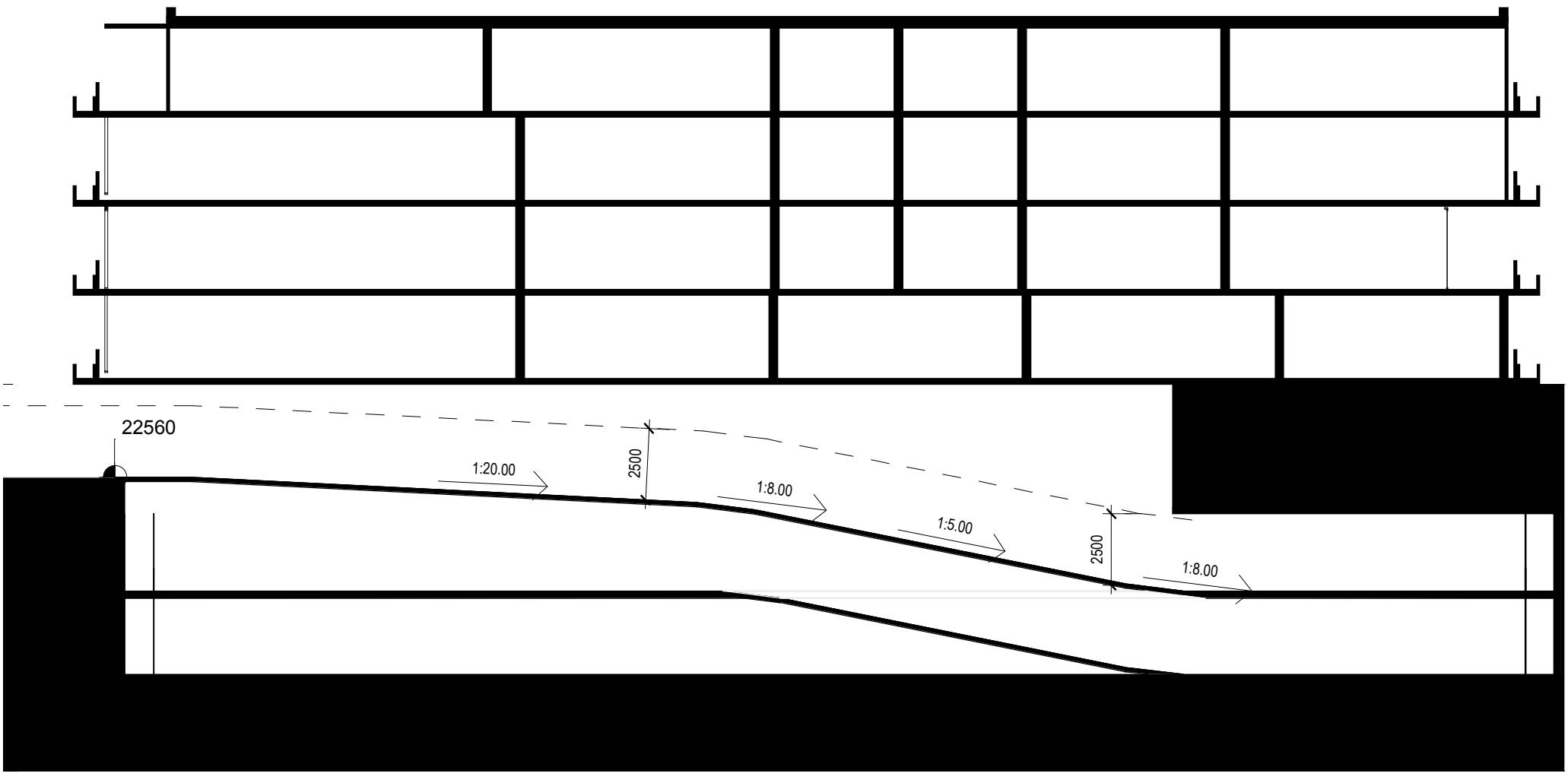
BUREAU
BUREAU OF URBAN ARCHITECTURE

Scale 1:1000

6.4 RAMP SECTIONS



MITCHELL STREET ENTRY RAMP



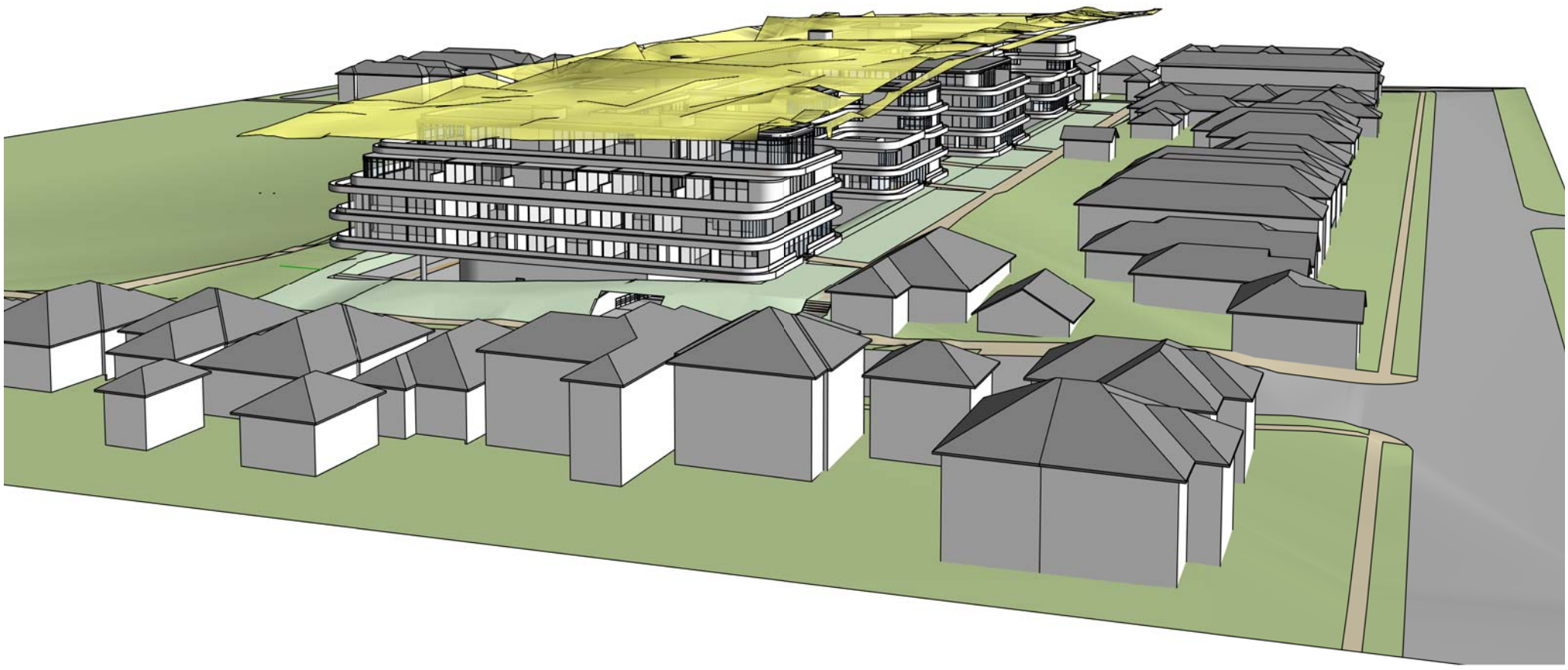
BAKER STREET ENTRY RAMP

BUREAU
BUREAU OF URBAN ARCHITECTURE

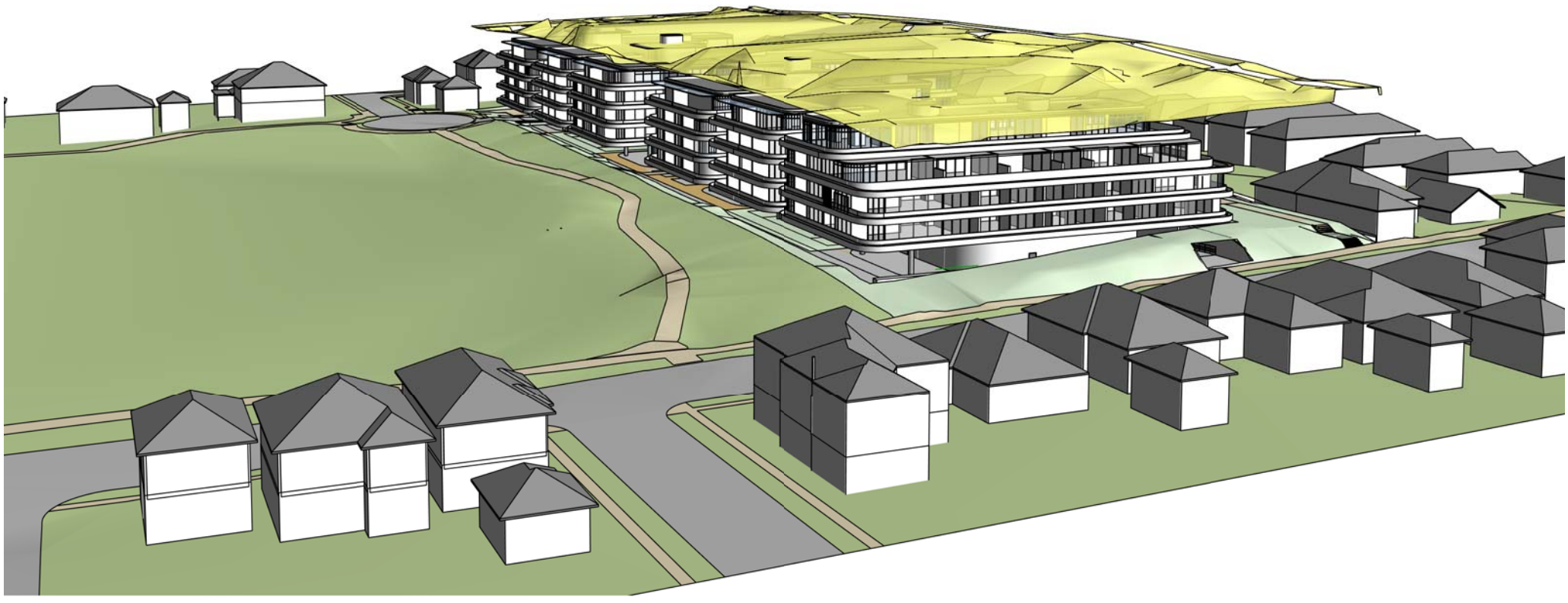
Scale 1:200

7.0 HEIGHT BLANKET

7.1 18M HEIGHT BLANKET



SOUTH EAST VIEW



SOUTH WEST VIEW

WEST VIEW

8.0 SCHEDULE OF USES

8.1 SCHEDULE OF USES

AREA	BUILDING	BUILDING FORM	USE	GBA (sqm)	STOREYS (Building Form)	GFA (sqm)
MITCHELL STREET BUILDING	1	Ground Level	Residential	2,934	1	2,372
		Level 01	Residential	2,947	1	2,363
		Level 02	Residential	2,659	1	2,075
		Level 03	Residential	2,351	1	1,650
		Roof	Residential	55		30
Sub Total				**10,946**	**4**	**8,489**
BAKER STREET BUILDING	2	Ground Level	Residential	2,934	1	2,372
		Level 01	Residential	2,947	1	2,363
		Level 02	Residential	2,659	1	2,234
		Level 03	Residential	2,351	1	2,161
		Roof	Residential	110		50
Sub Total				**11,001**	**4**	**9,179**
Retail	1 + 2				**1**	**400**
Total				**21,947**	**4**	**18,068**

Site Area	**12,620**
FSR	**1.43**

Sumary		
Residential	**FSR**	**1.40**
Retail	**FSR**	**0.03**

Definitions:

Gross Building Area (GBA) or GBA per floor.
GBA is the sum of the areas of each floor level of a building measured to the outer perimeter of external construction features (including the outer edge of balconies). Inside the envelope or floor footprint is where detailed design will happen in the future including but not limited to all things like planter boxes, corridors, lifts, stairs, habitable rooms, non-habitable rooms and balconies etc.

Gross Floor Area (GFA)
As defined in Burwood City Council – LEP, Dictionary

Floor Space Ratio (FSR)
As defined in Burwood City Council – LEP, Clause 4.5

9.0 SHADOW ANALYSIS

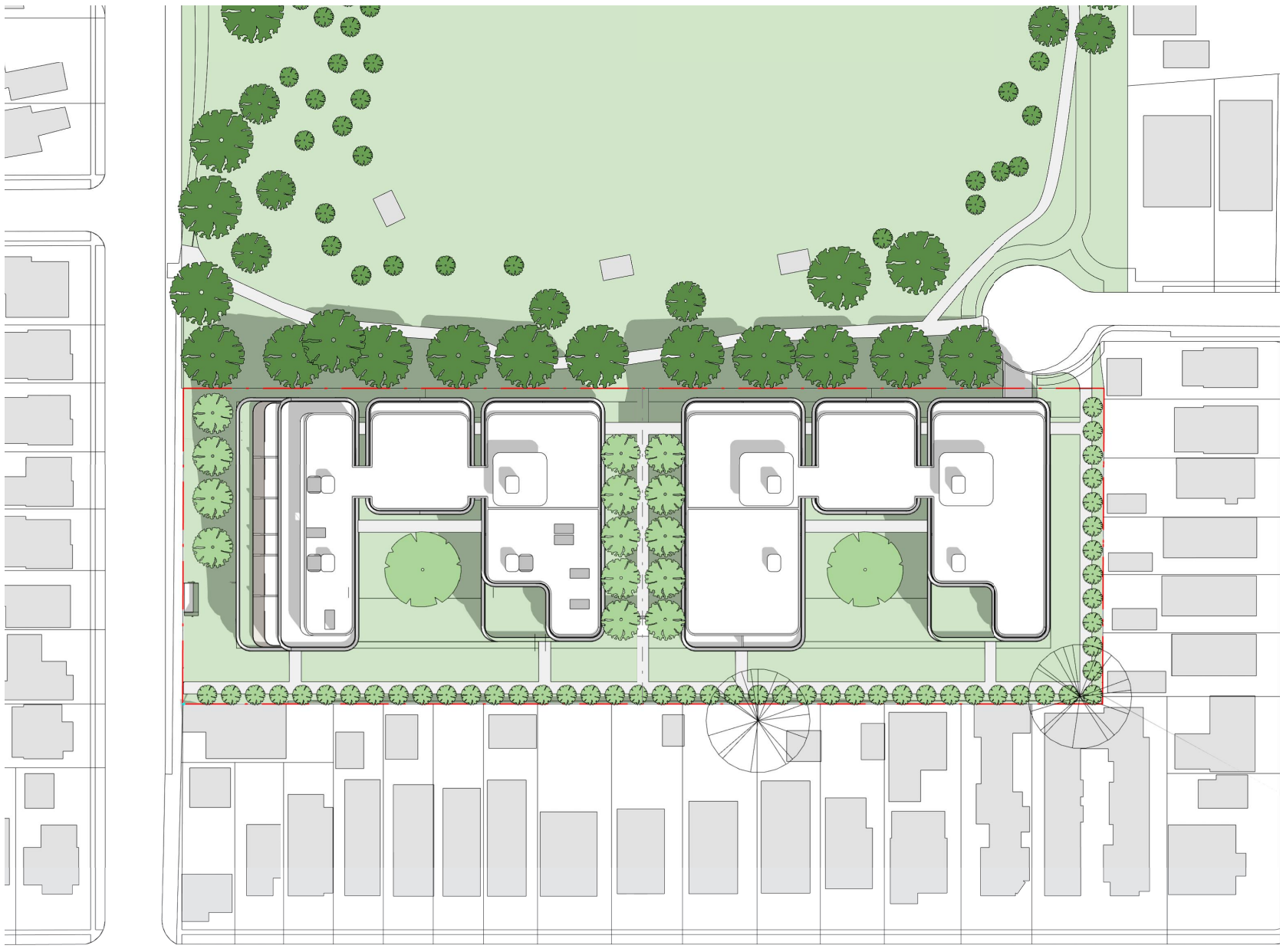
9.1 OVERSHADOWING

The following shadow diagrams illustrate annual shadows cast by the proposed built form (21st day of March, June, September and December).

The build form has been stepped to ensure the 9am shadow does not reach the houses to the South of the site on Mitchell Street.

The built form is set-back from the properties on Burwood Road and Llangollan Avenue by 12 metres mitigating any overshadowing.

9.2 SHADOW ANALYSIS MARCH 9AM



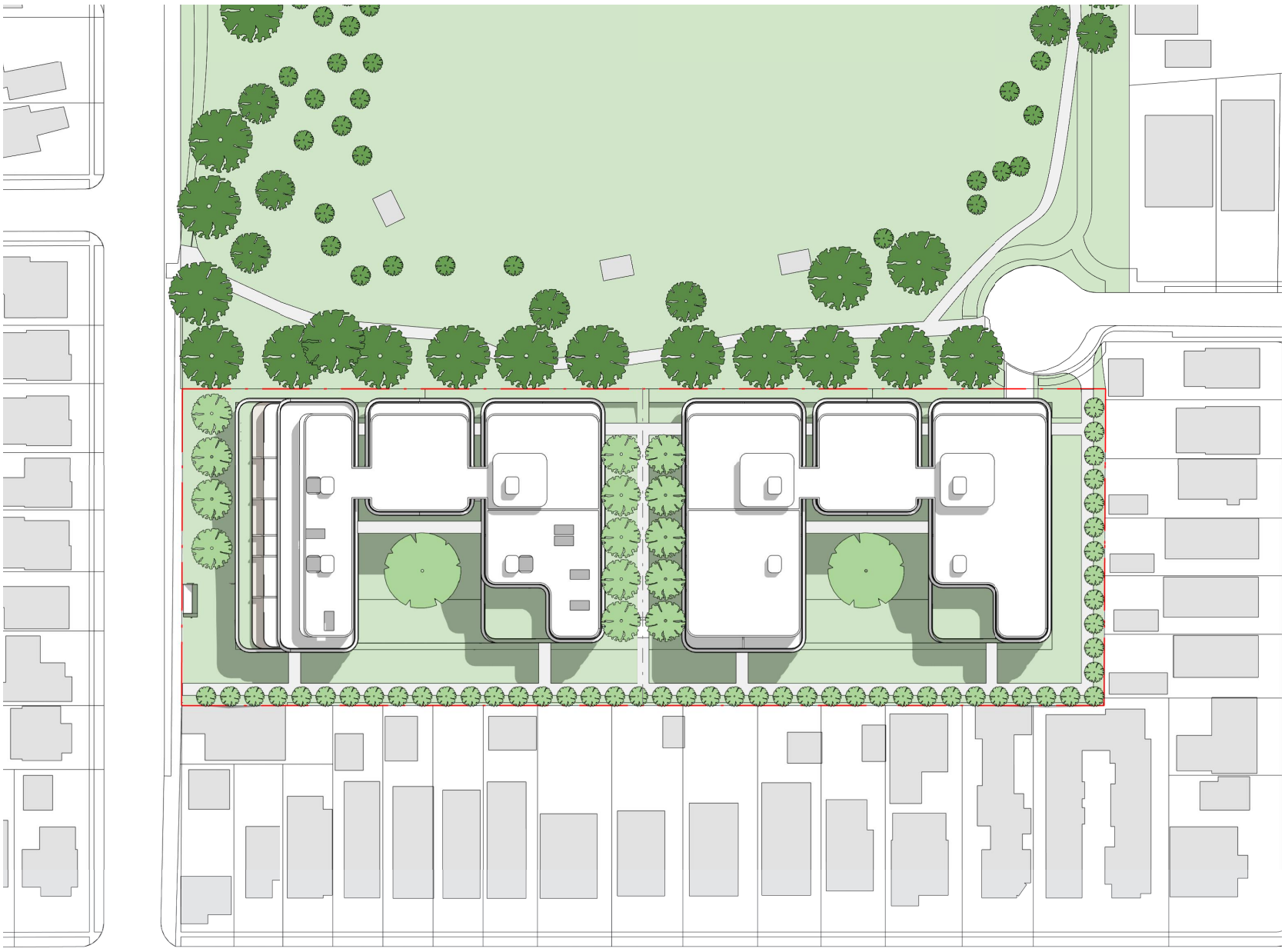
9.3 SHADOW ANALYSIS MARCH 10AM

9.4 SHADOW ANALYSIS MARCH 11AM

9.5 SHADOW ANALYSIS MARCH 12PM

9.6 SHADOW ANALYSIS MARCH 1PM

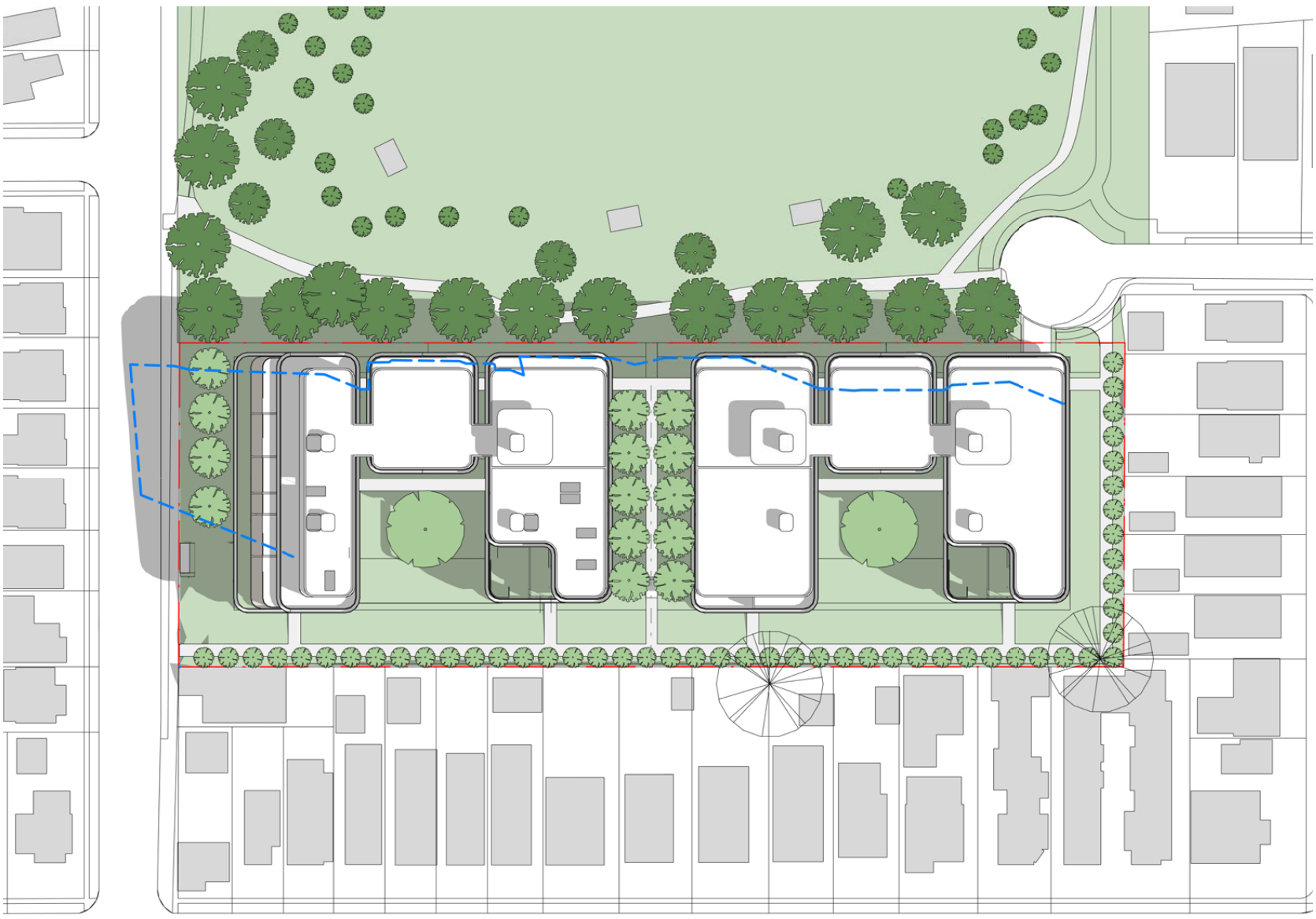
9.7 SHADOW ANALYSIS MARCH 2PM



9.8 SHADOW ANALYSIS MARCH 3PM

9.9 SHADOW ANALYSIS JUNE 9AM

9.10 SHADOW ANALYSIS JUNE 10AM



Existing Building Shadow Outline

9.11 SHADOW ANALYSIS JUNE 11AM

9.11 SHADOW ANALYSIS JUNE 12PM

Existing Building Shadow Outline

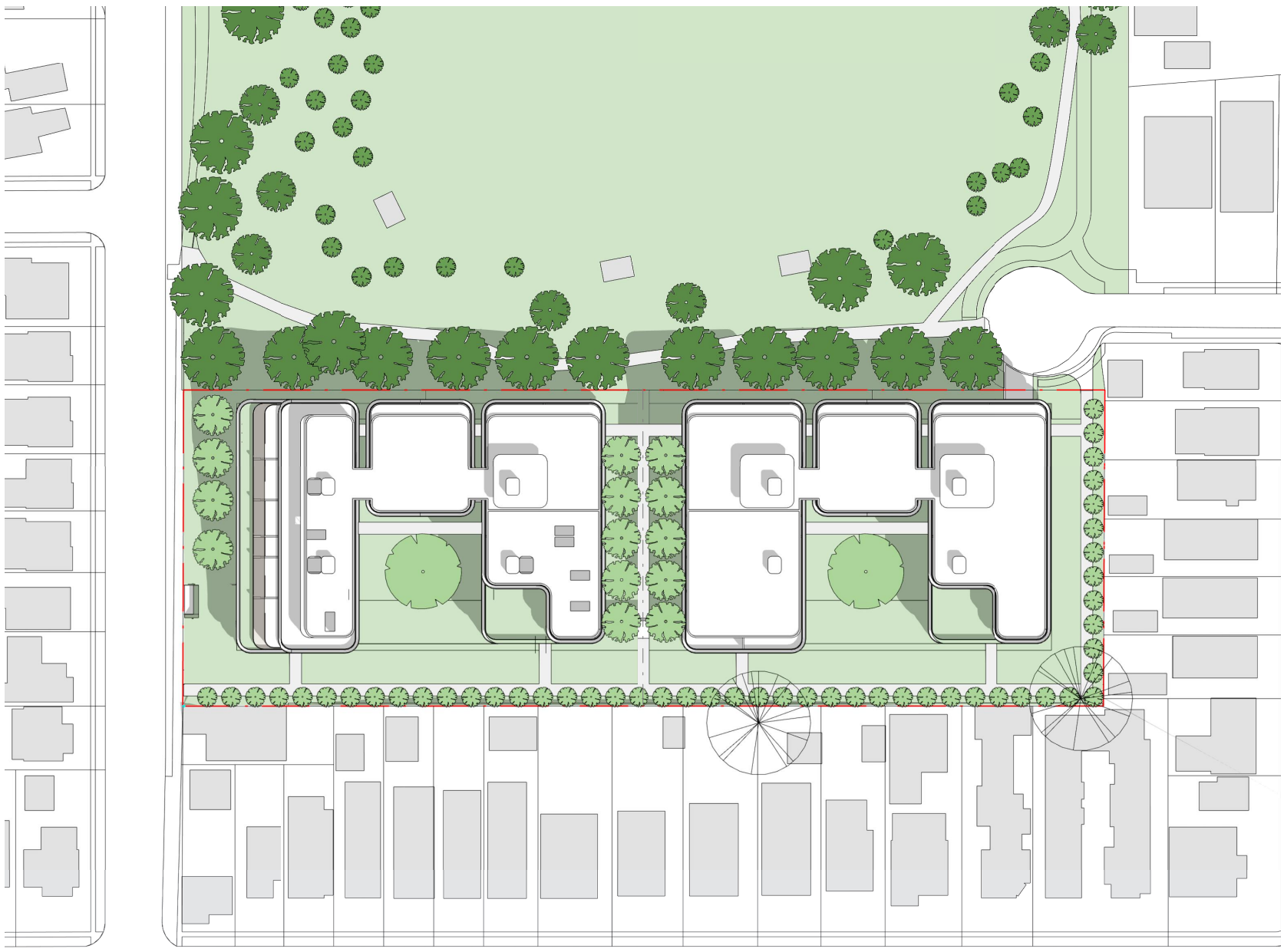
9.12 SHADOW ANALYSIS JUNE 1PM

9.13 SHADOW ANALYSIS JUNE 2PM

Existing Building Shadow Outline

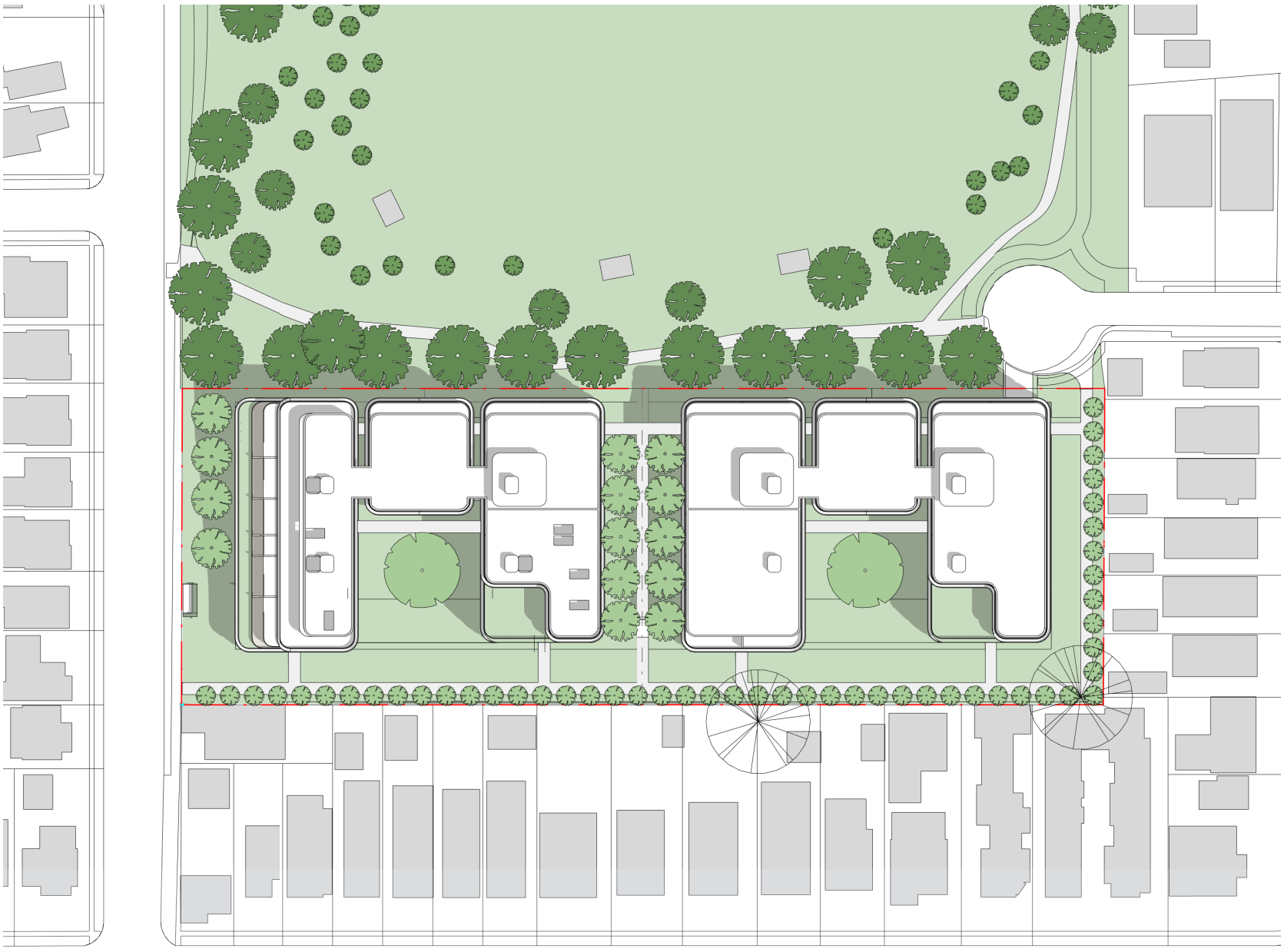
9.14 SHADOW ANALYSIS JUNE 3PM

9.15 SHADOW ANALYSIS SEPT 9AM



Existing Building Shadow Outline

9.16 SHADOW ANALYSIS SEPT 10AM

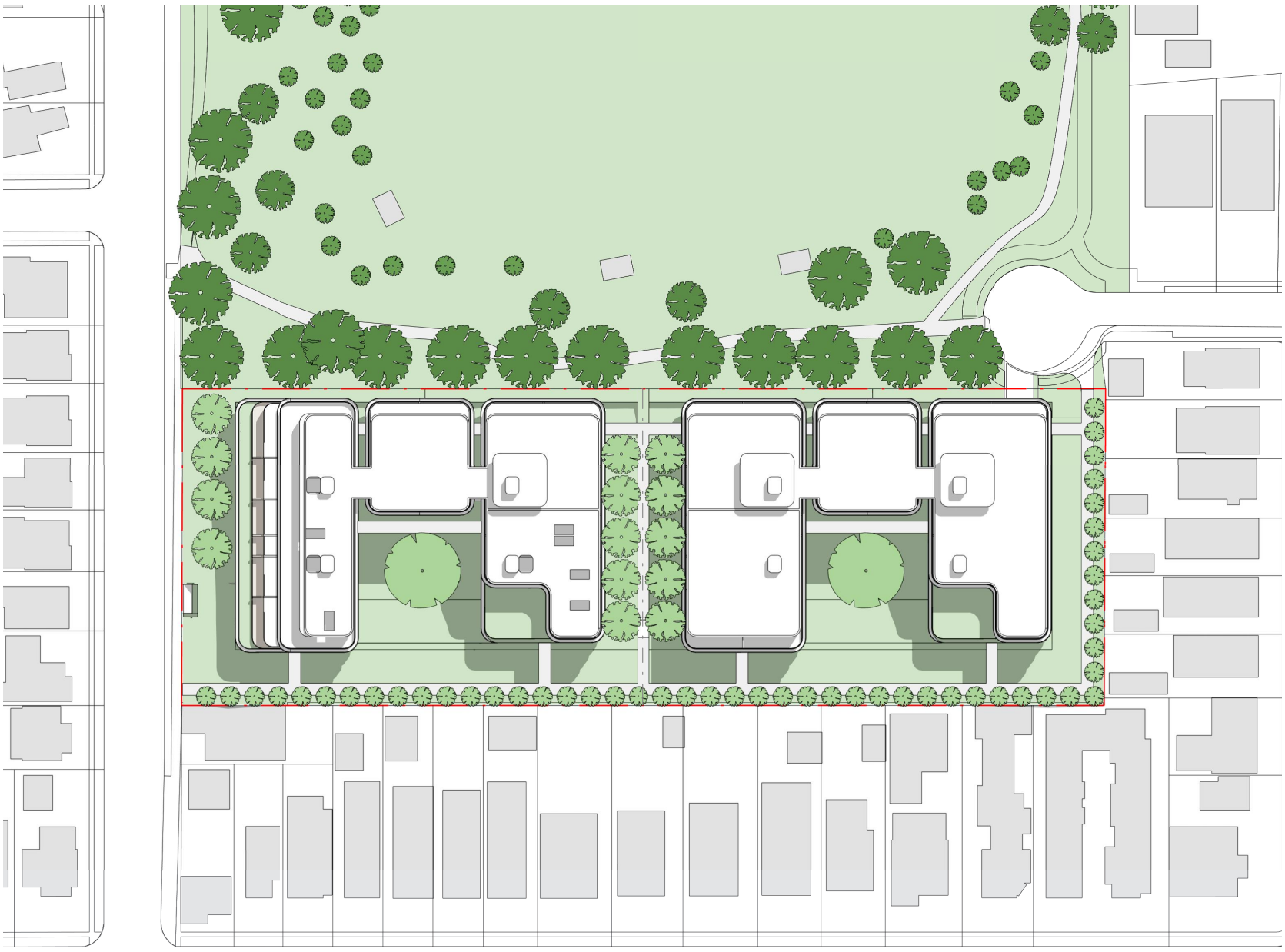


9.17 SHADOW ANALYSIS SEPT 11AM

9.18 SHADOW ANALYSIS SEPT 12PM

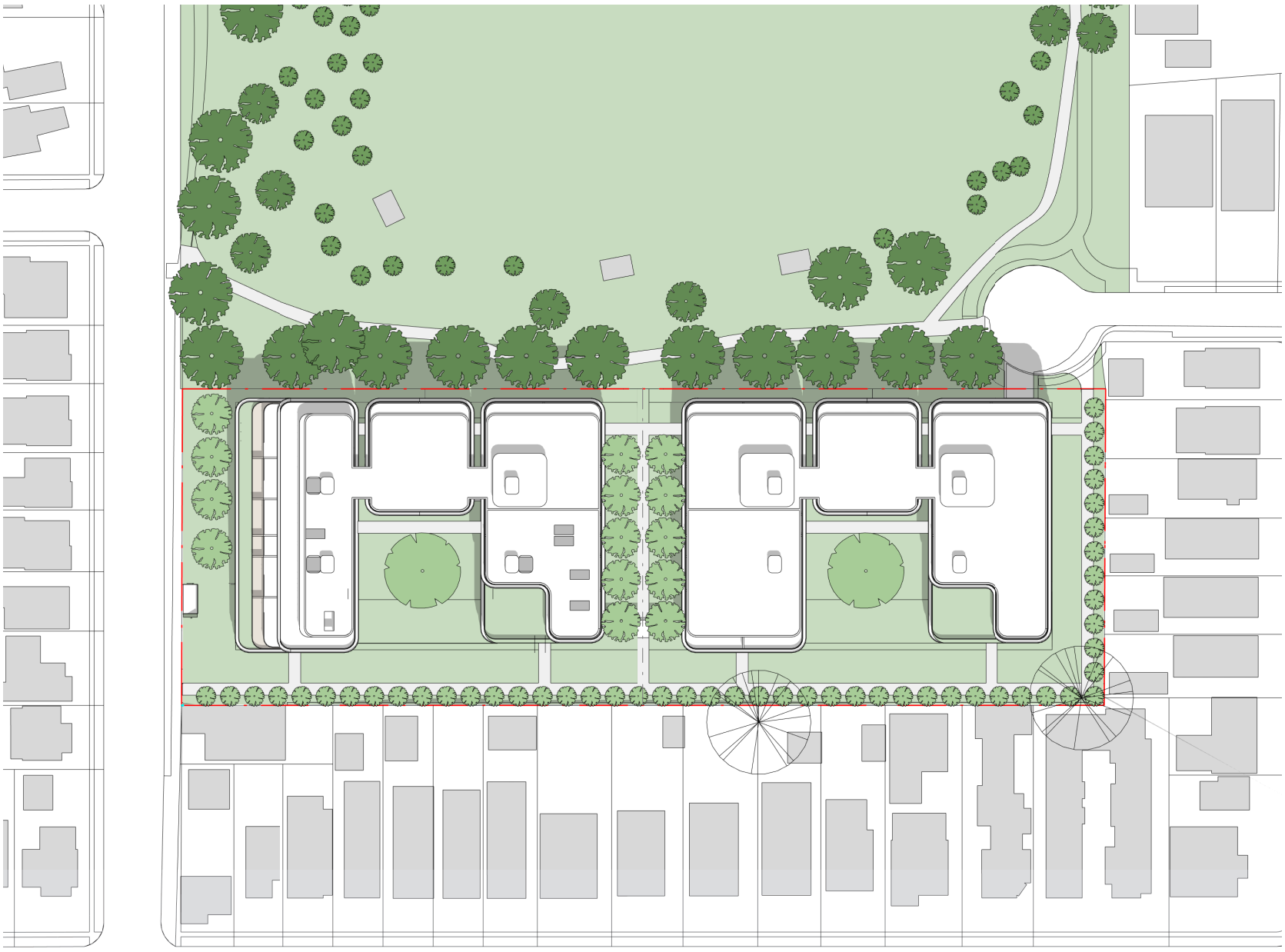
9.19 SHADOW ANALYSIS SEPT 1PM

9.20 SHADOW ANALYSIS SEPT 2PM



9.21 SHADOW ANALYSIS SEPT 3PM

9.22 SHADOW ANALYSIS DEC 9AM



9.23 SHADOW ANALYSIS DEC 10AM

9.24 SHADOW ANALYSIS DEC 11AM

9.25 SHADOW ANALYSIS DEC 12PM

9.26 SHADOW ANALYSIS DEC 1PM

9.27 SHADOW ANALYSIS DEC 2PM

9.28 SHADOW ANALYSIS DEC 3PM

9.29 COS PRINCIPAL USEABLE PART SHADOW ANALYSIS JUNE 9AM

Existing Building Shadow Outline

966 m²
DIRECT SUNLIGHT AREA- PRINCIPAL USABLE PART COMMUNAL OPEN SPACES

616 m²
SHADOW AREA- PRINCIPAL USABLE PART COMMUNAL OPEN SPACES

PRINCIPAL USABLE PART COMMUNAL OPEN SPACES

SK	PRINCIPAL USABLE PART COMMUNAL SPACE AREA (m²)	REQUIRED 50% DIRECT SUNLIGHT AREA (m²)	PROVIDED DIRECT SUNLIGHT AREA (m²)	PERCENTAGE DIRECT SUNLIGHT AREA	COMPLIANT
9:00	1,580	790	966	61%	YES
10:00	1,580	790	810	51%	YES
11:00	1,580	790	805	50%	YES
12:00	1,580	790	643	41%	NO
13:00	1,580	790	413	26%	NO
14:00	1,580	790	184	12%	NO
15:00	1,580	790	0	0%	NO
				TOTAL	3 HOURS SUNLIGHT

9.30 COS PRINCIPAL USEABLE PART SHADOW ANALYSIS JUNE 10AM

Existing Building Shadow Outline

810 m²
DIRECT SUNLIGHT AREA- PRINCIPAL USABLE PART COMMUNAL OPEN SPACES

770 m²
SHADOW AREA- PRINCIPAL USABLE PART COMMUNAL OPEN SPACES

PRINCIPAL USABLE PART COMMUNAL OPEN SPACES

9.31 COS PRINCIPAL USEABLE PART SHADOW ANALYSIS JUNE 11AM

Existing Building Shadow Outline

805 m²
DIRECT SUNLIGHT AREA- PRINCIPAL USABLE PART COMMUNAL OPEN SPACES

775 m²
SHADOW AREA- PRINCIPAL USABLE PART COMMUNAL OPEN SPACES

PRINCIPAL USABLE PART COMMUNAL OPEN SPACES

9.32 COS PRINCIPAL USEABLE PART SHADOW ANALYSIS JUNE 12PM

Existing Building Shadow Outline

643 m²
DIRECT SUNLIGHT AREA- PRINCIPAL USABLE PART COMMUNAL OPEN SPACES

937 m²
SHADOW AREA- PRINCIPAL USABLE PART COMMUNAL OPEN SPACES

PRINCIPAL USABLE PART COMMUNAL OPEN SPACES

9.33 COS PRINCIPAL USEABLE PART SHADOW ANALYSIS JUNE 1PM

Existing Building Shadow Outline

413 m²
DIRECT SUNLIGHT AREA- PRINCIPAL USABLE PART COMMUNAL OPEN SPACES

1,167 m²
SHADOW AREA- PRINCIPAL USABLE PART COMMUNAL OPEN SPACES

PRINCIPAL USABLE PART COMMUNAL OPEN SPACES

9.34 COS PRINCIPAL USEABLE PART SHADOW ANALYSIS JUNE 2PM

Existing Building Shadow Outline

184 m²
DIRECT SUNLIGHT AREA- PRINCIPAL USABLE PART COMMUNAL OPEN SPACES

1,396 m²
SHADOW AREA- PRINCIPAL USABLE PART COMMUNAL OPEN SPACES

PRINCIPAL USABLE PART COMMUNAL OPEN SPACES

9.35 COS PRINCIPAL USEABLE PART SHADOW ANALYSIS JUNE 3PM

Existing Building Shadow Outline

0 m²
DIRECT SUNLIGHT AREA- PRINCIPAL USABLE PART COMMUNAL OPEN SPACES

1,580 m²
SHADOW AREA- PRINCIPAL USABLE PART COMMUNAL OPEN SPACES

PRINCIPAL USABLE PART COMMUNAL OPEN SPACES

10.0 APARTMENT DESIGN GUIDE COMPLIANCE

10.1 ADG (SEPP65) SUMMARY

SEPP65 SUMMARY

CROSS VENTILATION	70% ACHIEVED (SEPP65 REQUIREMENT = 60%)
SOLAR ACCESS 2+ HOURS	80% ACHIEVED BASED ON CURRENT ASSUMPTION OF ORIENTATION OTHER THAN SINGLE ASPECT SOUTH FACING (SEPP65 REQUIREMENT = 70%)
COMMUNAL OPEN SPACE	>30% ACHIEVED (BETWEEN GROUND, ROOF TOP AND OTHER AREAS) (SEPP65 REQUIREMENT 25%)
BUILDING SEPARATION	MIN 18m SEPARATION BETWEEN ALL BUILDINGS ON SITE COMPLIES TO ADG
DEEP SOIL	8% ACHIEVED (SEPP65 REQUIREMENT = 7%)

ACHIEVES MINIMUM 15 MINUTES DIRECT SOLAR ACCESS	
YES:	156
TOTAL APARTMENTS:	183
% COMPLIES:	85%
SEPP65 REQUIREMENT:	85%

ACHIEVES MINIMUM 2 HOURS DIRECT ACCESS TO LIVING SPACES	
YES:	148
TOTAL APARTMENTS:	183
% COMPLIES:	80%
SEPP65 REQUIREMENT:	70%

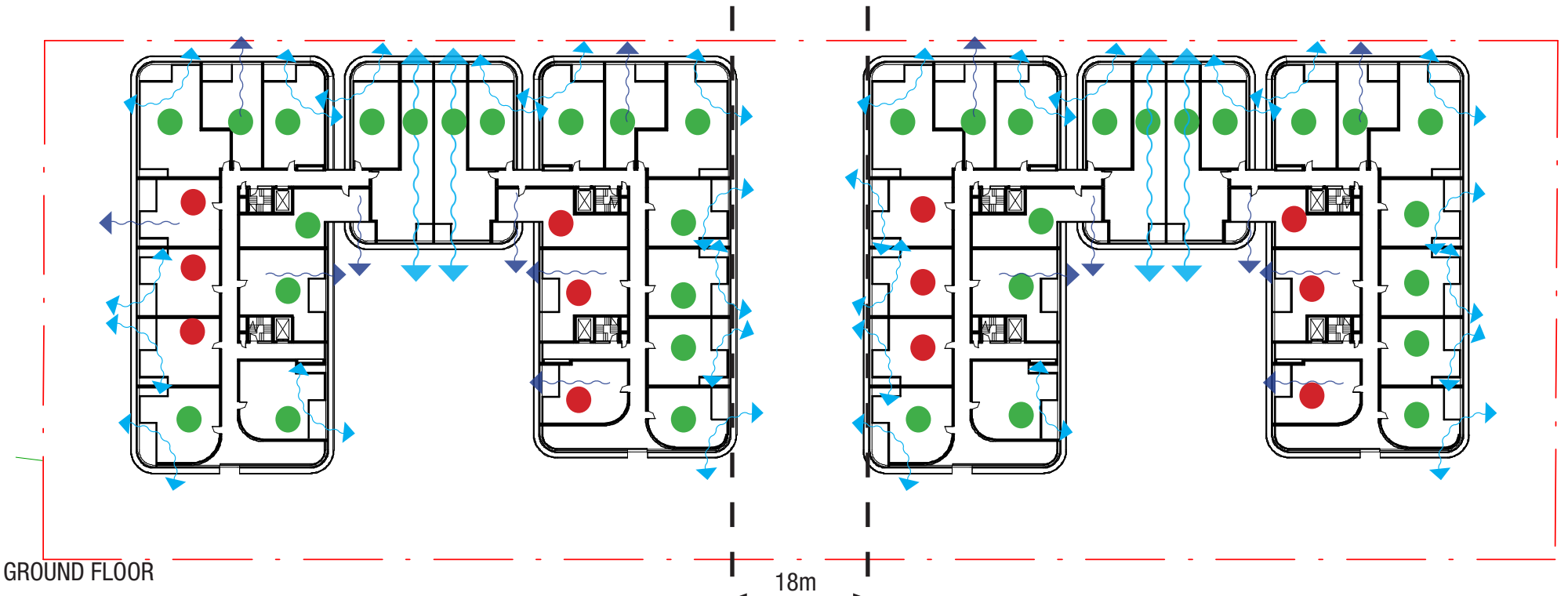
NATURAL VENTILATION	
YES:	183
TOTAL APARTMENTS:	183
% COMPLIES:	100%
SEPP65 REQUIREMENT:	100%

CROSS VENTILATION	
YES:	129
TOTAL APARTMENTS:	183
% COMPLIES:	70%
SEPP65 REQUIREMENT:	60%

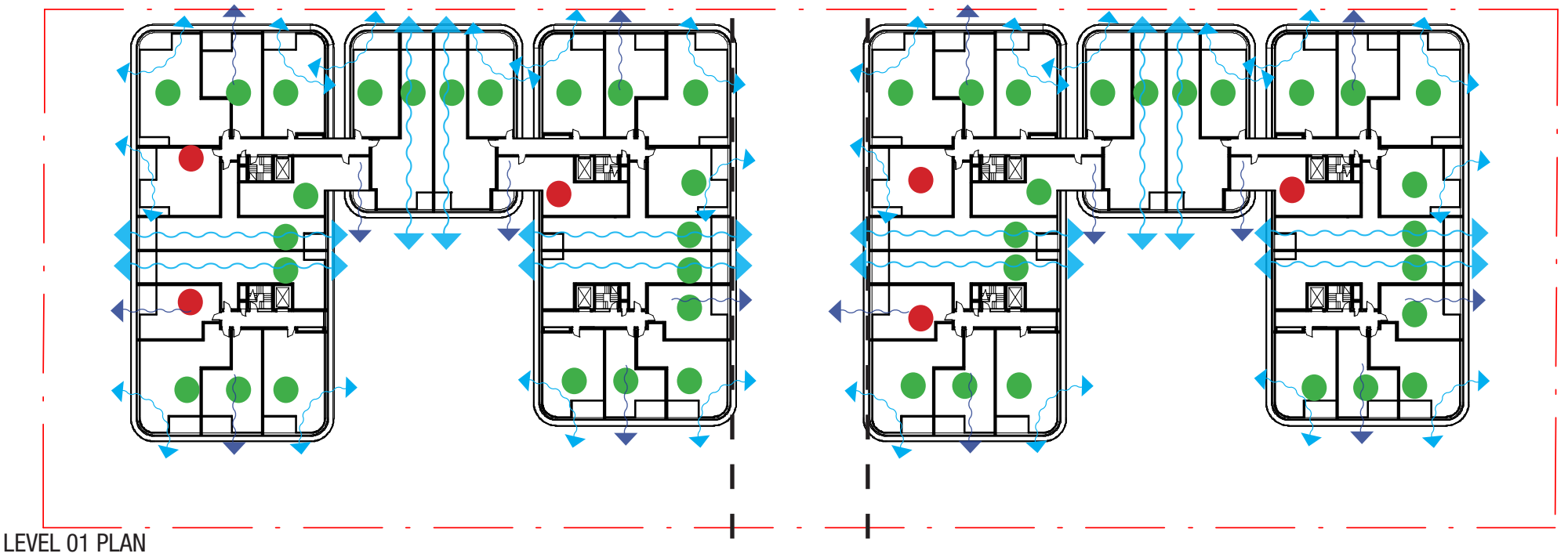
ADG DEFINITIONS

4A SOLAR AND DAYLIGHT ACCESS (PAGE 79):	LIVING ROOMS AND PRIVATE OPEN SPACES OF AT LEAST 70% OF APARTMENTS IN A BUILDING RECEIVE A MINIMUM OF 2 HOURS DIRECT SUNLIGHT BETWEEN 9 AM AND 3PM AT MID WINTER.
MINIMUM 2HR DIRECT SOLAR ACCESS	A MAXIMUM OF 15% OF APARTMENTS IN A BUILDING RECEIVE NO DIRECT SUNLIGHT BETWEEN 9AM AND 3PM AT MID WINTER.
LESS THAN 15% APARTMENTS WITH NO DIRECT SOLAR ACCESS	

10.2 VENTILATION + SOLAR STUDIES DIAGRAM - 15 MINS



GROUND FLOOR



LEVEL 01 PLAN

CROSS VENTILATION

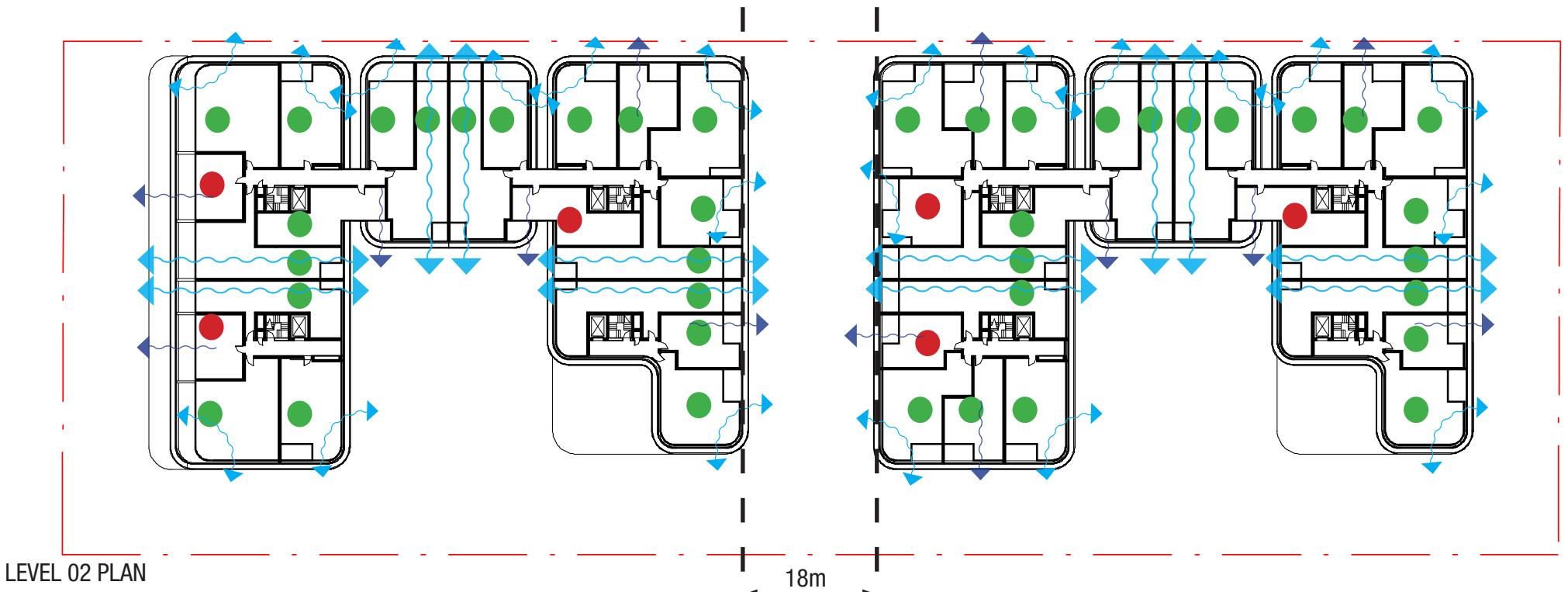
NATURAL VENTILATION

2+ HRS SOLAR ACCESS

<2 HRS SOLAR ACCESS

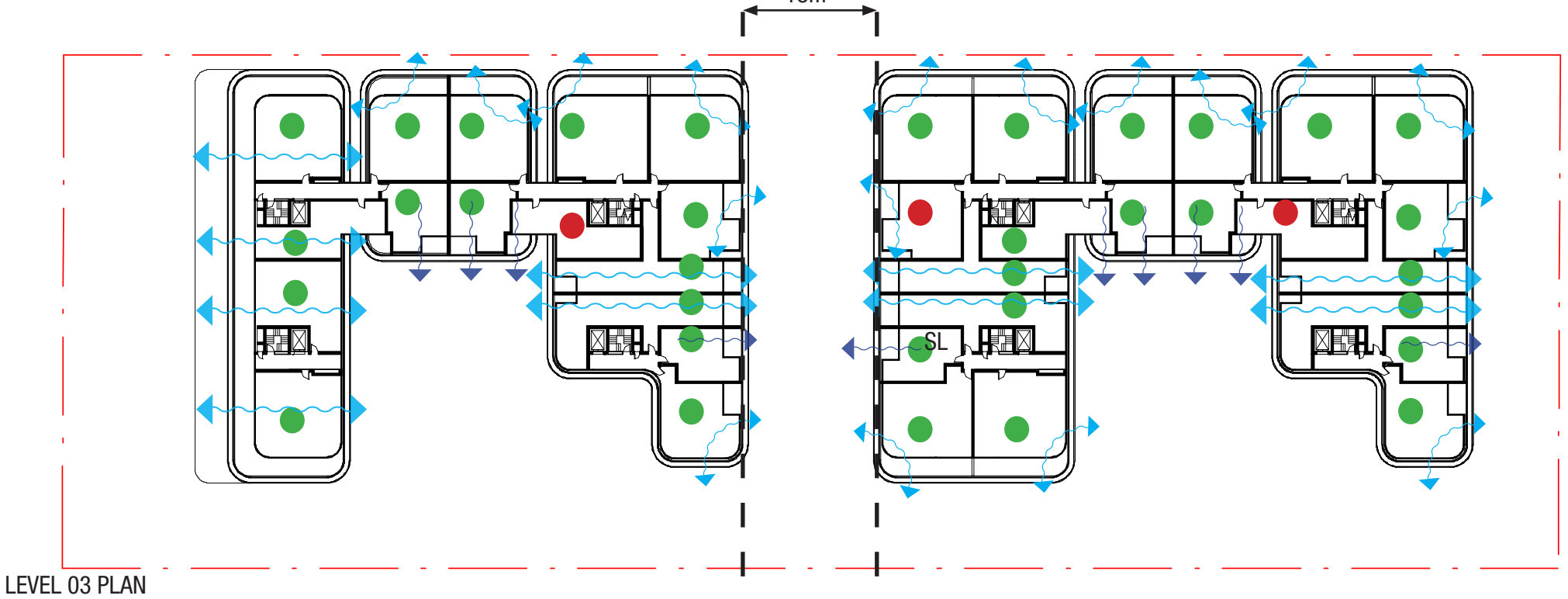
SL SKYLIGHT TO ACHIEVE ADG SOLAR ACCESS REQUIREMENT

10.2 VENTILATION + SOLAR STUDIES DIAGRAM - 15 MINS



LEVEL 02 PLAN

18m



LEVEL 03 PLAN

CROSS VENTILATION

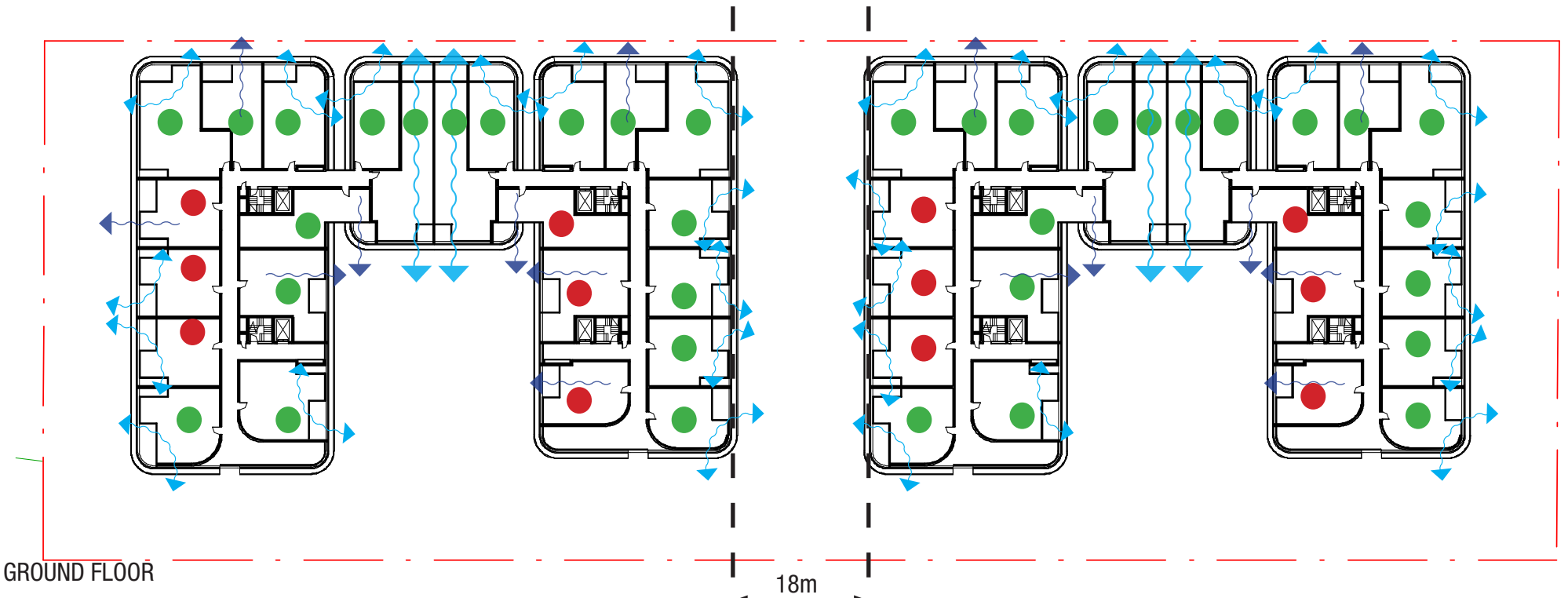
NATURAL VENTILATION

2+ HRS SOLAR ACCESS

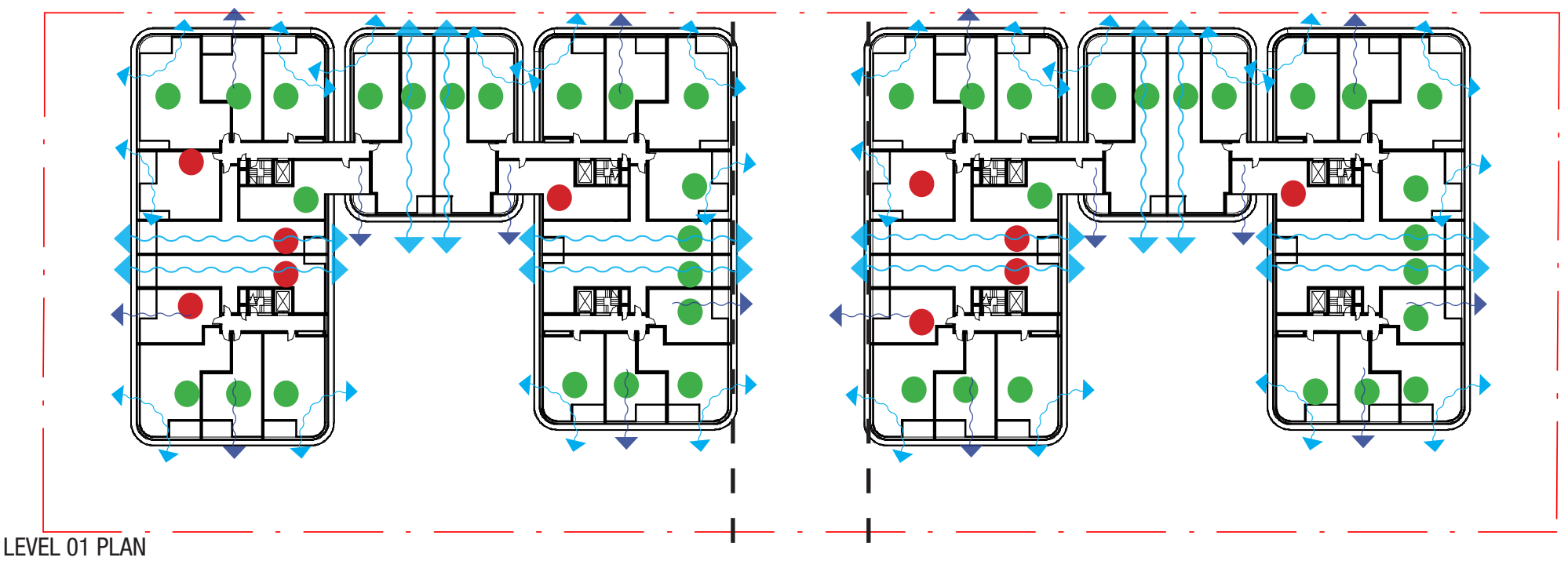
<2 HRS SOLAR ACCESS

SL SKYLIGHT TO ACHIEVE ADG SOLAR ACCESS REQUIREMENT

10.3 VENTILATION + SOLAR STUDIES DIAGRAM - 2 HOURS



GROUND FLOOR



LEVEL 01 PLAN

CROSS VENTILATION

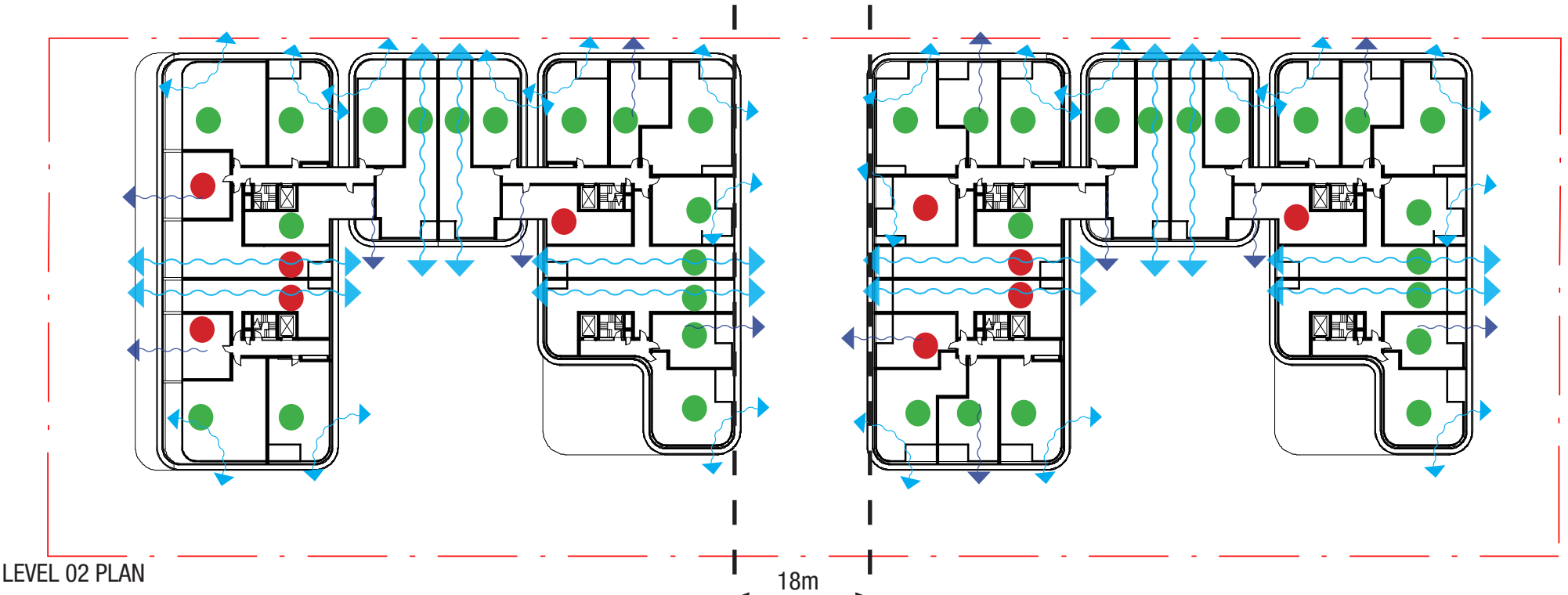
NATURAL VENTILATION

2+ HRS SOLAR ACCESS

<2 HRS SOLAR ACCESS

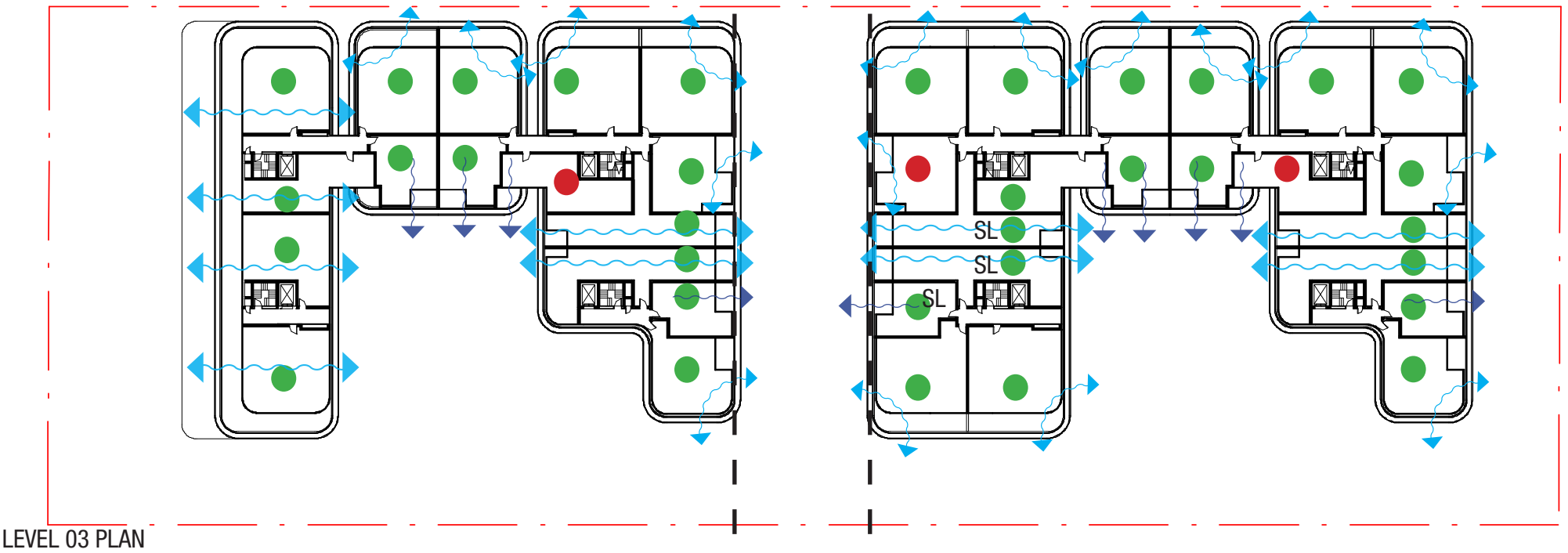
SL SKYLIGHT TO ACHIEVE ADG SOLAR ACCESS REQUIREMENT

10.3 VENTILATION + SOLAR STUDIES DIAGRAM - 2 HOURS



LEVEL 02 PLAN

18m



LEVEL 03 PLAN

CROSS VENTILATION

NATURAL VENTILATION

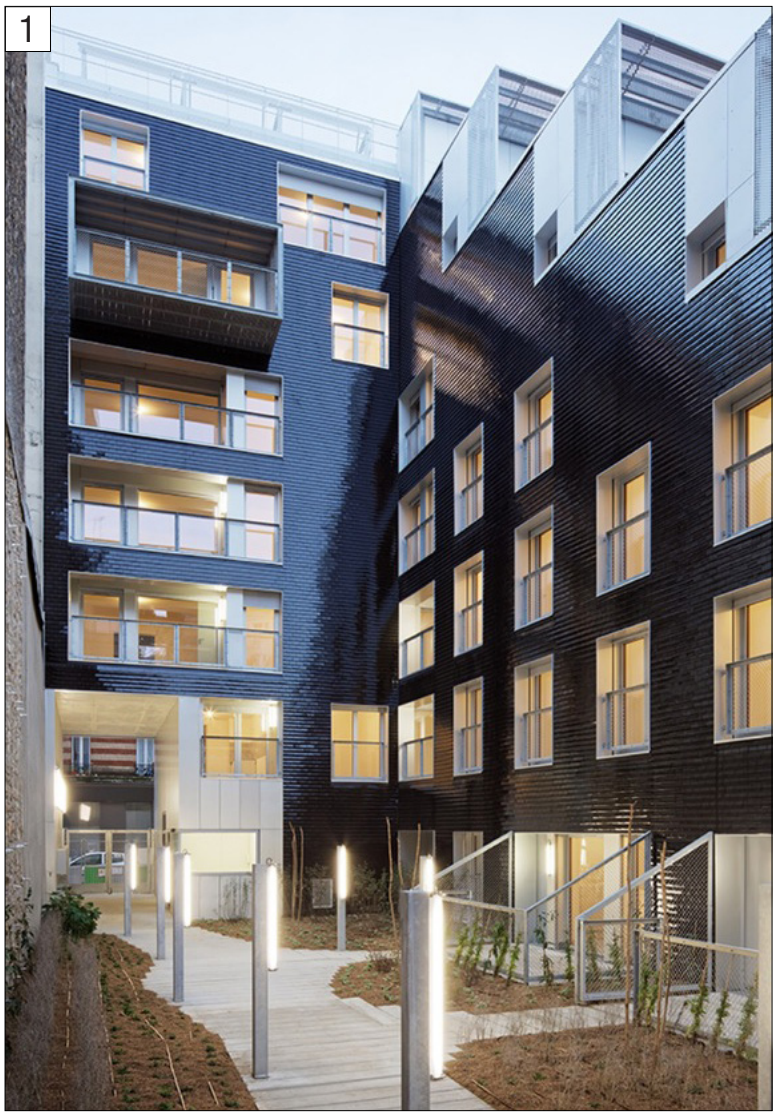
2+ HRS SOLAR ACCESS

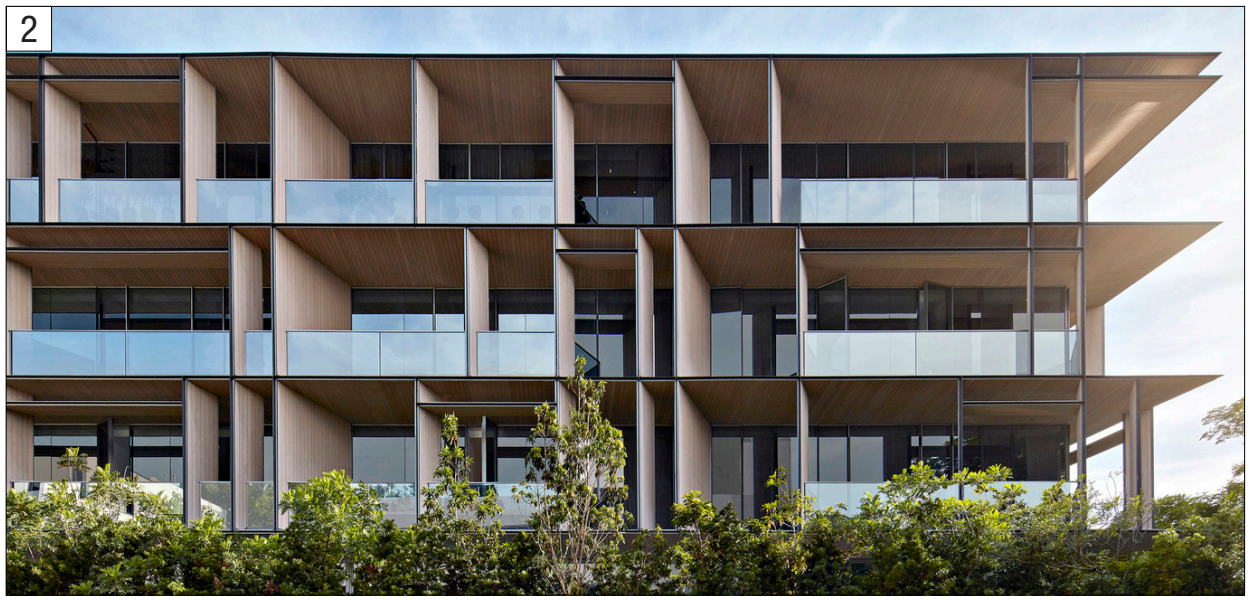
<2 HRS SOLAR ACCESS

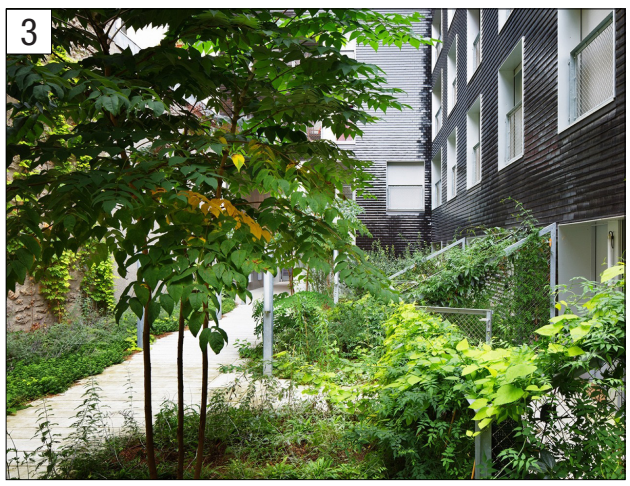
SL SKYLIGHT TO ACHIEVE ADG SOLAR ACCESS REQUIREMENT

11.0 PRECEDENTS

11.1 PRECEDENT STUDY

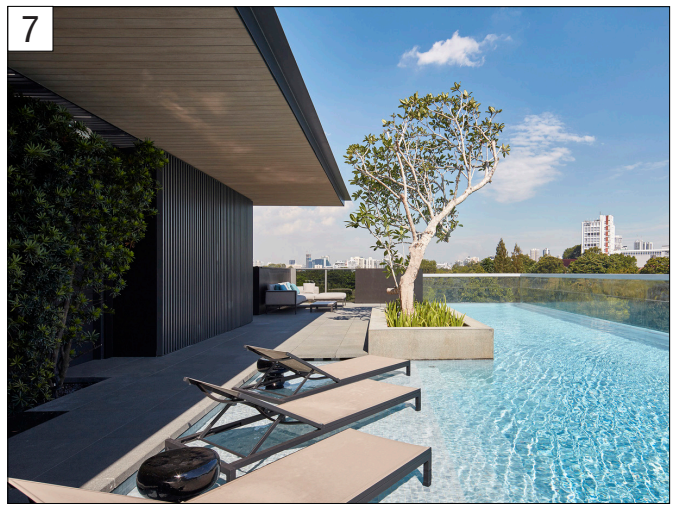






6.1 LOOK AND FEEL
1/Housing units Paris, France
2/Housing units, Singapore
3/Housing units Paris, France
4/Housing Eaubonne, France

11.1 PRECEDENT STUDY



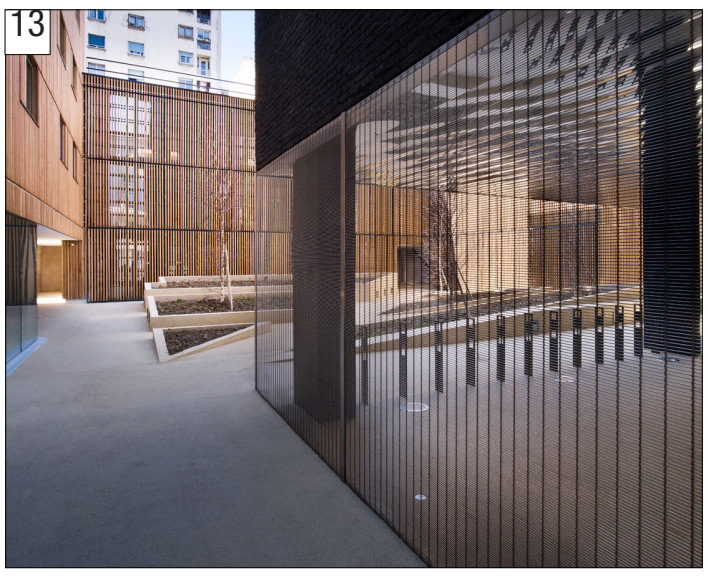
6.1 LOOK AND FEEL
5/Housing Nantes, France
6/House Precedent
7/Housing units, Singapore
8/PARKROYAL on Pickering, Singapore

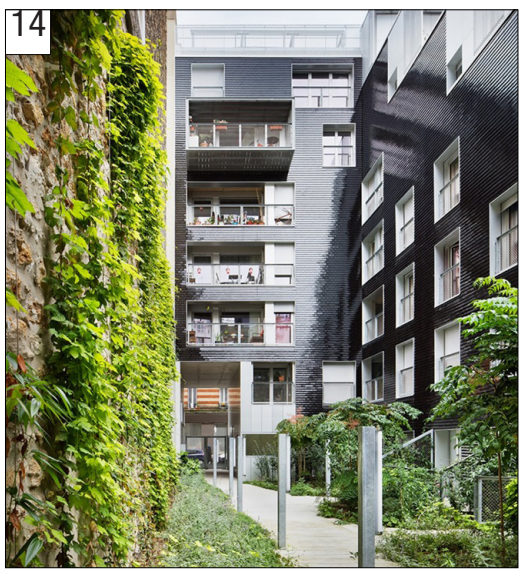
11.1 PRECEDENT STUDY


10


11


12


13


14

6.1 LOOK AND FEEL

10/Housing units, Singapore

11/Housing units, Singapore

12/Tinbeerwah House, South Queensland

13/Housing units Paris, France

14/Tete in L'air Paris, France

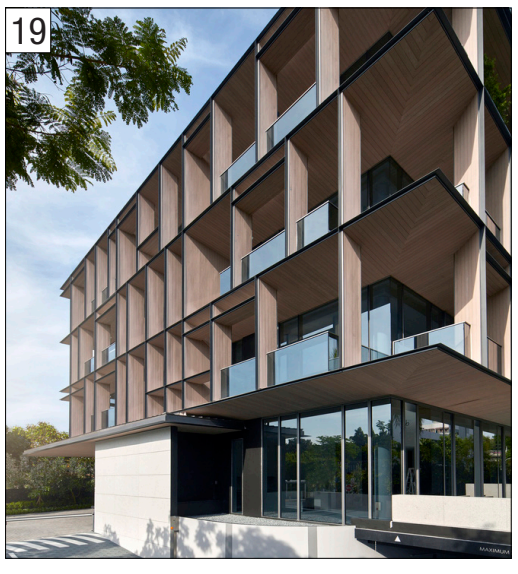
11.1 PRECEDENT STUDY


15


16


17


18


19

6.1 LOOK AND FEEL
15/Housing Nantes, France
16/Housing Eaubonne, France
17/Hotel Athenee, Paris, France
18/Tinbeerwah House, South Queensland
19/Housing units, Singapore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