

# The Bonus Scheme

Response to City of Sydney Council  
request for information, dated 10  
March 2020

Bonus Scheme



Bonus Scheme

## Design Excellence Bonus

The reference scheme was submitted with an FSR of 2.75:1. However, with the use of a design excellence bonus an additional 10% of GFA can be achieved, equivalent to a 3.025:1 FSR.

This booklet builds on the Urban Design Report submitted as part of the Planning Proposal, and outlines two potential options for achieving the 10% GFA bonus. It should be noted that the following scheme is represented through a block model and mapping exercise only in order to demonstrate compliance with key ADG controls. It is not representative of a design nor of design excellence.

This booklet should be read in conjunction with Chapter 5 of the Urban Design Report which explores further opportunities for refinement of the scheme and achievement of the 10% GFA bonus.

# Bonus Scheme

## The Bonus Scheme

The Bonus Scheme explores the potential of the site to accommodate an additional 10% bonus GFA as allowable under a design excellence process. A number of opportunities were identified in the Urban Design Report, as shown adjacent. The Bonus Scheme explores a combination of two of the options to arrive at a solution that achieves an additional 10% bonus GFA area without compromising key ADG compliance requirements.



The Bonus Scheme - Block Model in Context

### Reference Scheme

2.75:1 FSR = 29,818m<sup>2</sup> GFA

Average efficiency of reference scheme = 74%

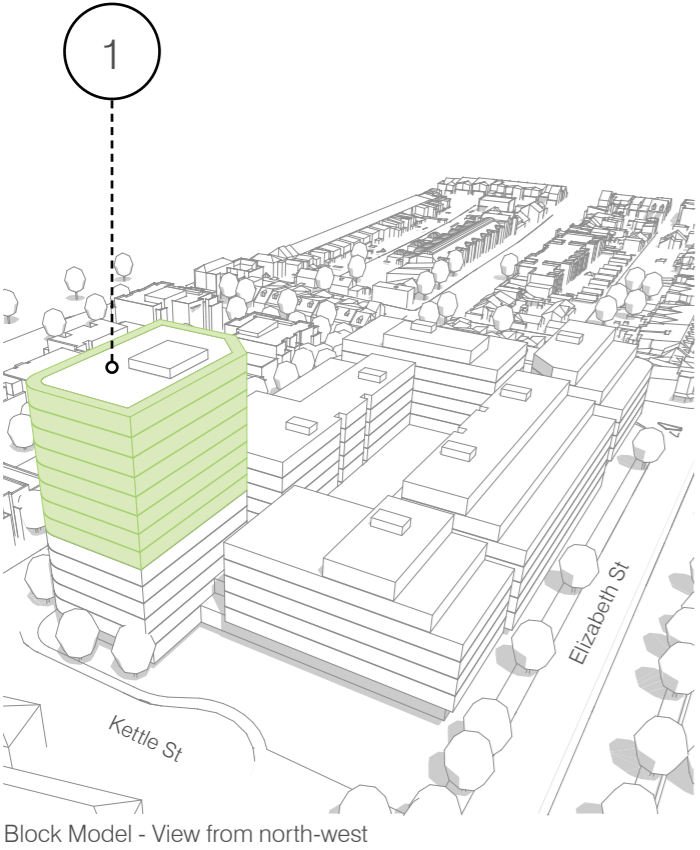
### Bonus Scheme

3.025:1 FSR = 32,821m<sup>2</sup>; or

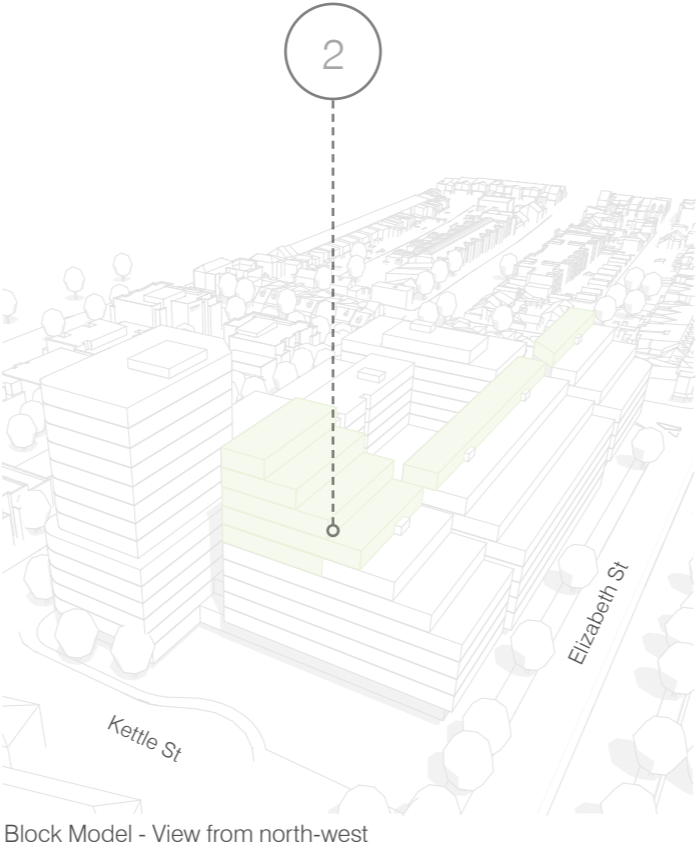
Additional Bonus GFA approx. 3,000m<sup>2</sup>

Average efficiency of bonus scheme = 79%

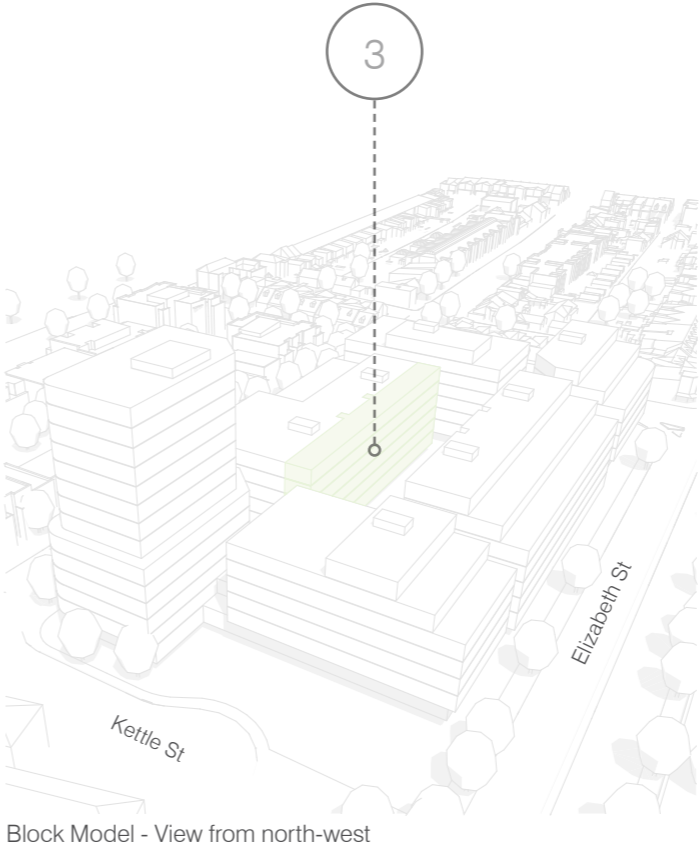
# Bonus Scheme



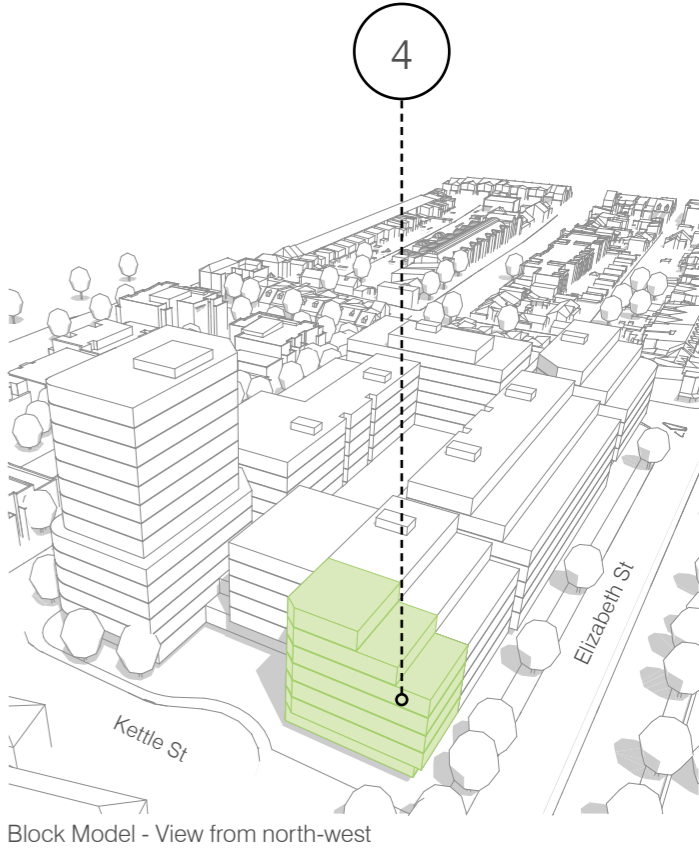
1. Maximise Marker Envelope



2. Maximise Solar Envelope



3. Maximise Courtyard Envelope



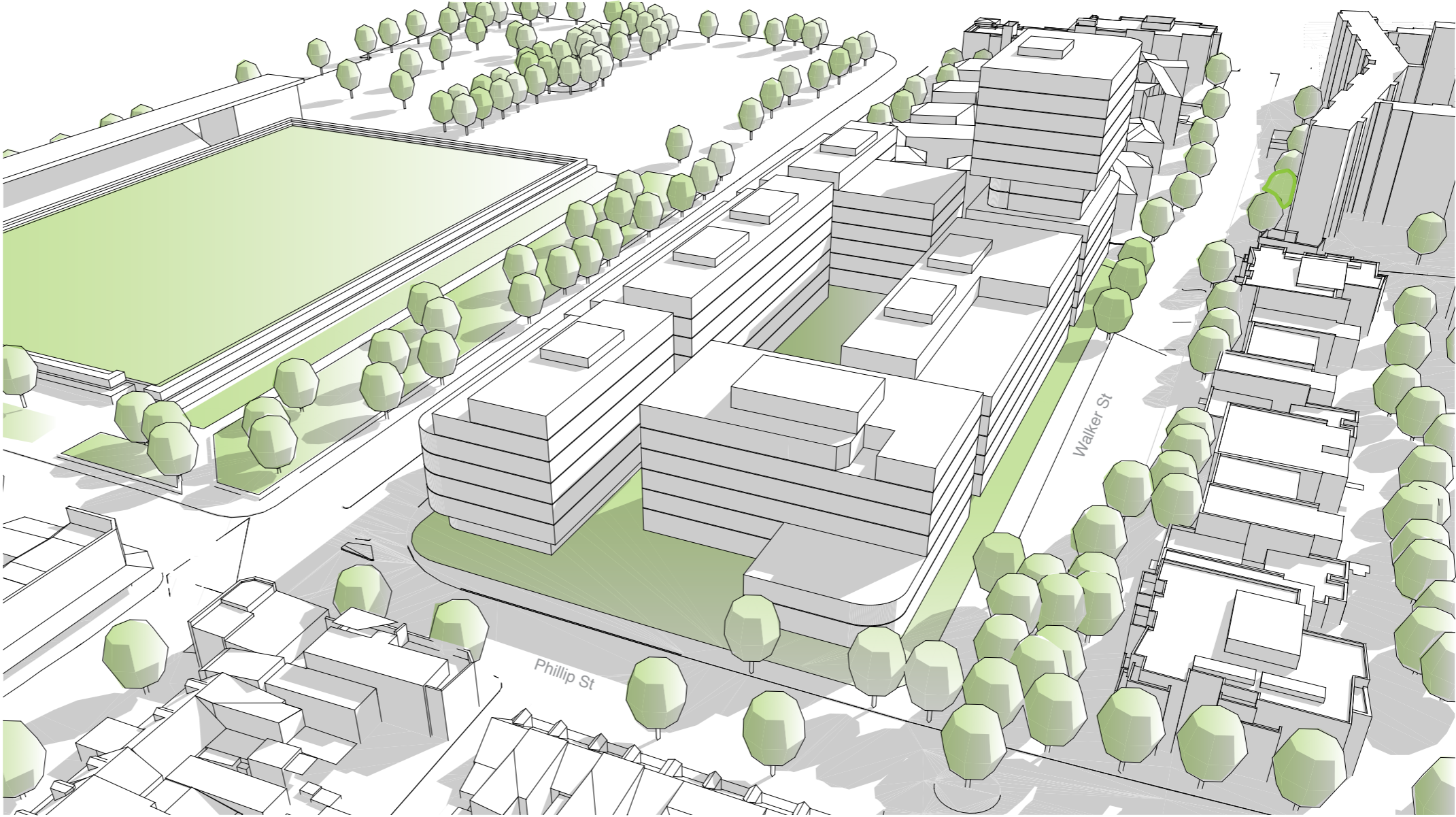
4. Maximise Kettle and Phillip Street Envelopes

Of the opportunities outlined in the Urban Design Report, the Bonus Scheme explores a combination of Option 01 and 04 to achieve the 10% bonus GFA area.

# Bonus Scheme

## The Bonus Scheme

The Bonus Scheme demonstrates compliance with key ADG targets. As with the Reference Scheme, compliance is achieved within a scheme that prioritises a greater number of studio and 1 bed apartments. This mix reflects expectations for a build to rent project, as is proposed on the Elizabeth Street, Redfern site.



The Bonus Scheme - Block Model in Context

# Bonus Scheme

## Key metrics

This section provides a numerical summary of the Bonus Scheme presented in this study. Apartment numbers, size and mix are based on a standard ADG compliant test fit.



GFA achieved:  
31,222 m<sup>2</sup> Residential  
1,602 m<sup>2</sup> Non-Residential



The Bonus Scheme shows a layout that achieves 351 apartments.



The Bonus Scheme dwelling mix demonstrates ADG compliance:

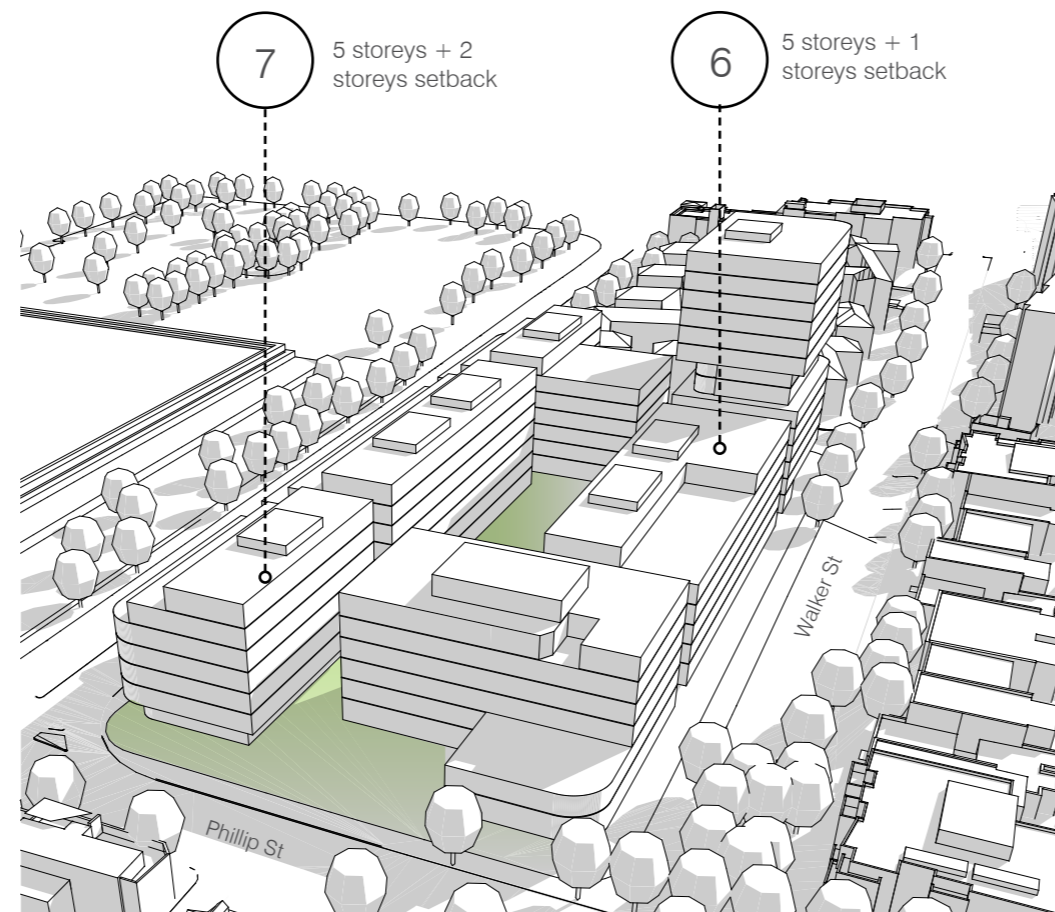
- Studio: 17%
- 1 bedroom: 25%
- 2 bedroom: 50%
- 3 bedroom: 6%
- 4 bedroom: 2%



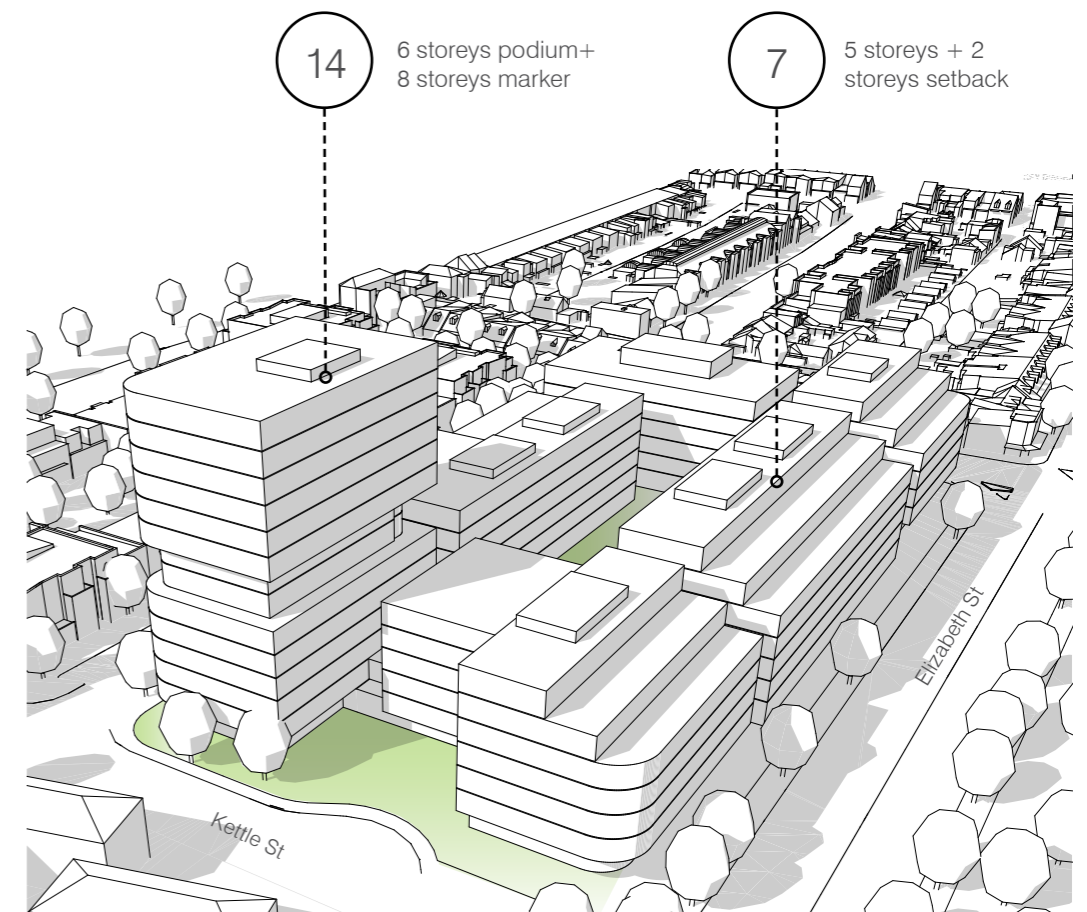
The Bonus Scheme indicative layout results in 60% of apartments achieving natural ventilation compliance



The Bonus Scheme indicative layout results in 79% of apartments achieving solar compliance



Reference Scheme Block Model - View from south-east



Reference Scheme Block Model - View from north-west

Bonus Scheme

Ground Level Mapping

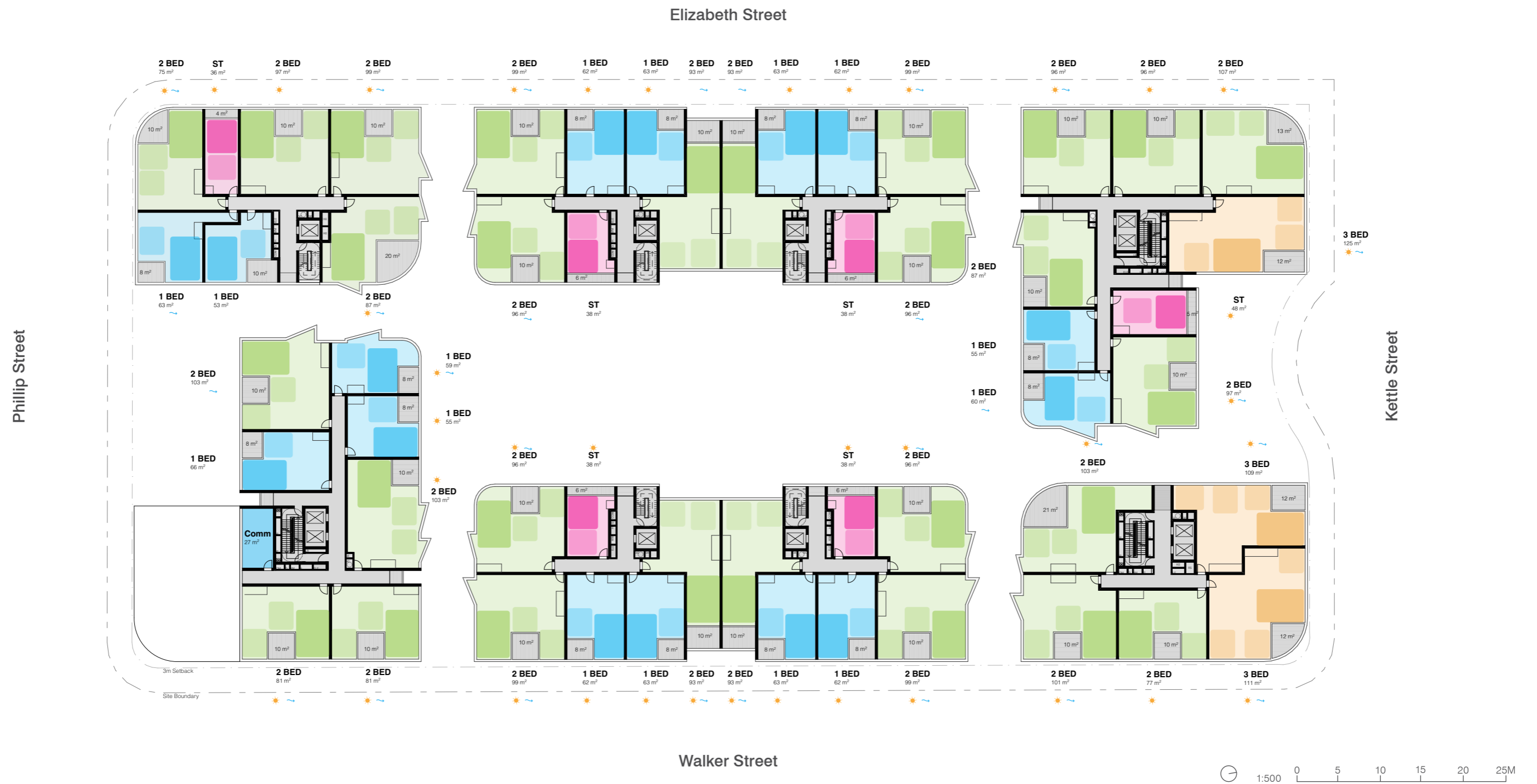


Indicative mapping only - no landscape of public domain shown



# Bonus Scheme

## Typical Level Mapping



# Bonus Scheme

## Mapping Summary



Ground Level



Level 01



Level 02



Level 03 - 04

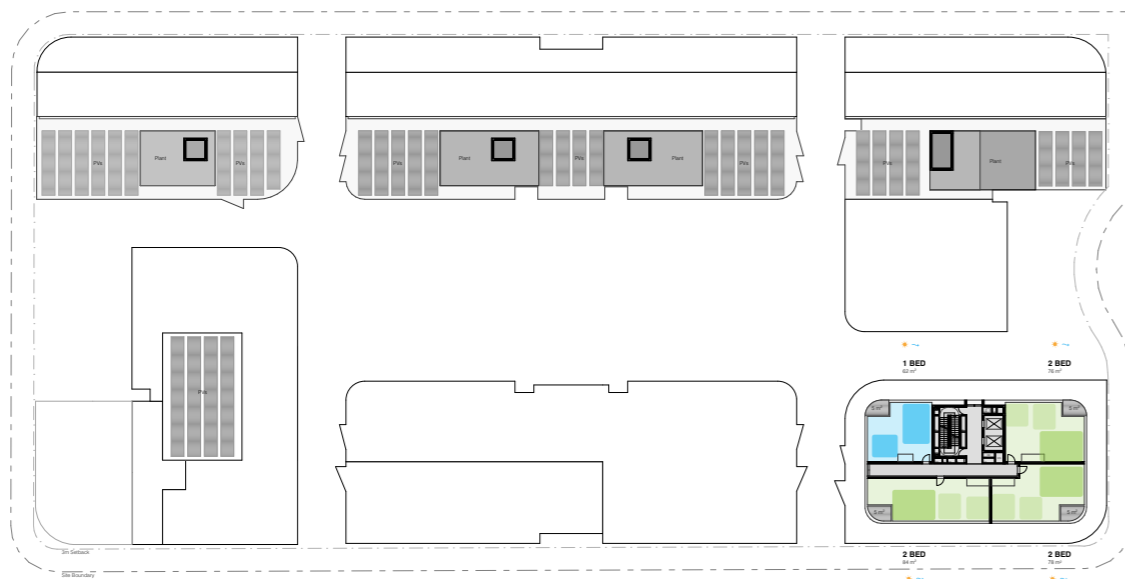


# Bonus Scheme

## Mapping Summary



### Level 05



### Level 07 - 08

### Level 06



### Level 09 - 13



# Bonus Scheme

## Key Compliance Summary

The Bonus Scheme was assessed against primary criteria in the Apartment Design Guide (ADG), which included:

- Building separation
- Cross ventilation
- Solar access to apartments
- Communal open space
- Deep soil

Detailed testing demonstrates that apartments in the Bonus Scheme are capable of achieving the key compliance requirements in the ADG.

The adjacent table provides a summary of ADG testing for the Bonus Scheme.

Detailed analysis of the key matters is provided in the following pages.

Issue	Reference Scheme	Requirement	Compliant
<b>ADG Testing</b>			
Building separation	- The Bonus Scheme achieves or exceeds the minimum building separations as required by both the Apartment Design Guidelines and the City of Sydney DCP.	- The minimum building separation to non-primary façades is 6m as required by the City of Sydney DCP - Refer to ADG for separation guidelines	✓
Cross ventilation	- 60% of apartments are capable of being cross ventilated	- At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building	✓
Solar access to apartments	- 79% of apartments receive 2 hours of sunlight in mid winter	- At least 70% of apartments receive 2 hours direct sunlight between 9am and 3pm in mid winter	✓
	- 8% of apartments receive no sunlight in mid winter	- A maximum of 15% of apartments in a building receive no direct sunlight between 9am and 3pm mid winter	✓
Communal open space	- Communal open space (at ground and rooftop) has a minimum area equal to 44% of the site	- Communal open space has a minimum area equal to 25% of the site	✓

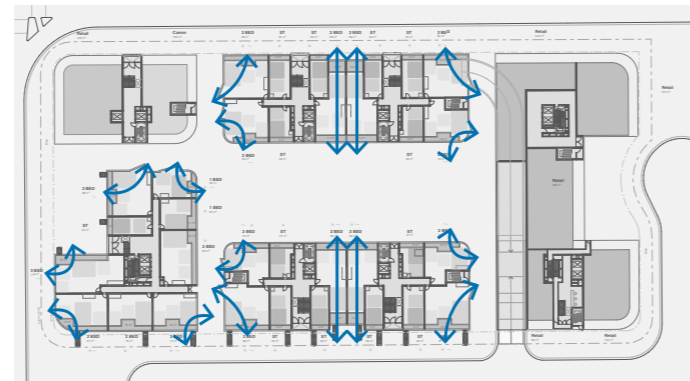
# Bonus Scheme

## Cross ventilation to apartments

Detailed testing demonstrates that apartments in the Bonus Scheme are capable of achieving compliance with cross ventilation requirements in the ADG.

The design criteria in the ADG requires '60% of apartments to be naturally cross ventilated in the first nine storeys of the building.

The Bonus Scheme demonstrates that 60% of apartments are capable of being cross ventilated.



Ground Floor Analysis	
Total apartment no.	33
ADG compliant	17
% Compliant with standards	<b>52%</b>



Level 01	
Total apartment no.	53
ADG compliant	28
% Compliant with standards	<b>53%</b>



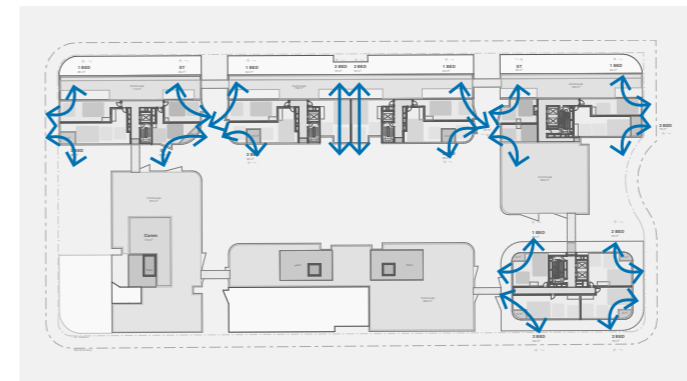
Level 02 - 04 Analysis	
Total apartment no.	52
ADG compliant	29
% Compliant with standards	<b>56%</b>

### Total Development

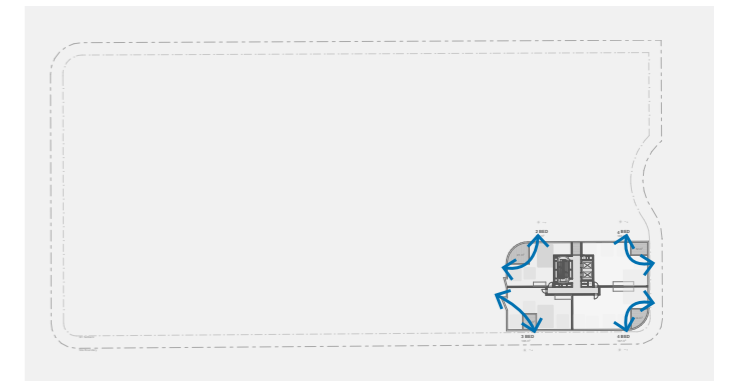
Total apartments (First nine storeys)	311
Total ADG compliant	190
% Compliant with standards	<b>60%</b> ✓



Level 05 Analysis	
Total apartment no.	43
ADG compliant	30
% Compliant with standards	<b>70%</b>



Level 06 Analysis	
Total apartment no.	18
ADG compliant	18
% Compliant with standards	<b>100%</b>



Level 07 - 08 Analysis	
Total apartment no.	4
ADG compliant	4
% Compliant with standards	<b>100%</b>

Level 09 - 14  
Apartments above 9 storeys are not included in calculation in accordance with ADG

Legend  
↔ Cross ventilation

# Bonus Scheme

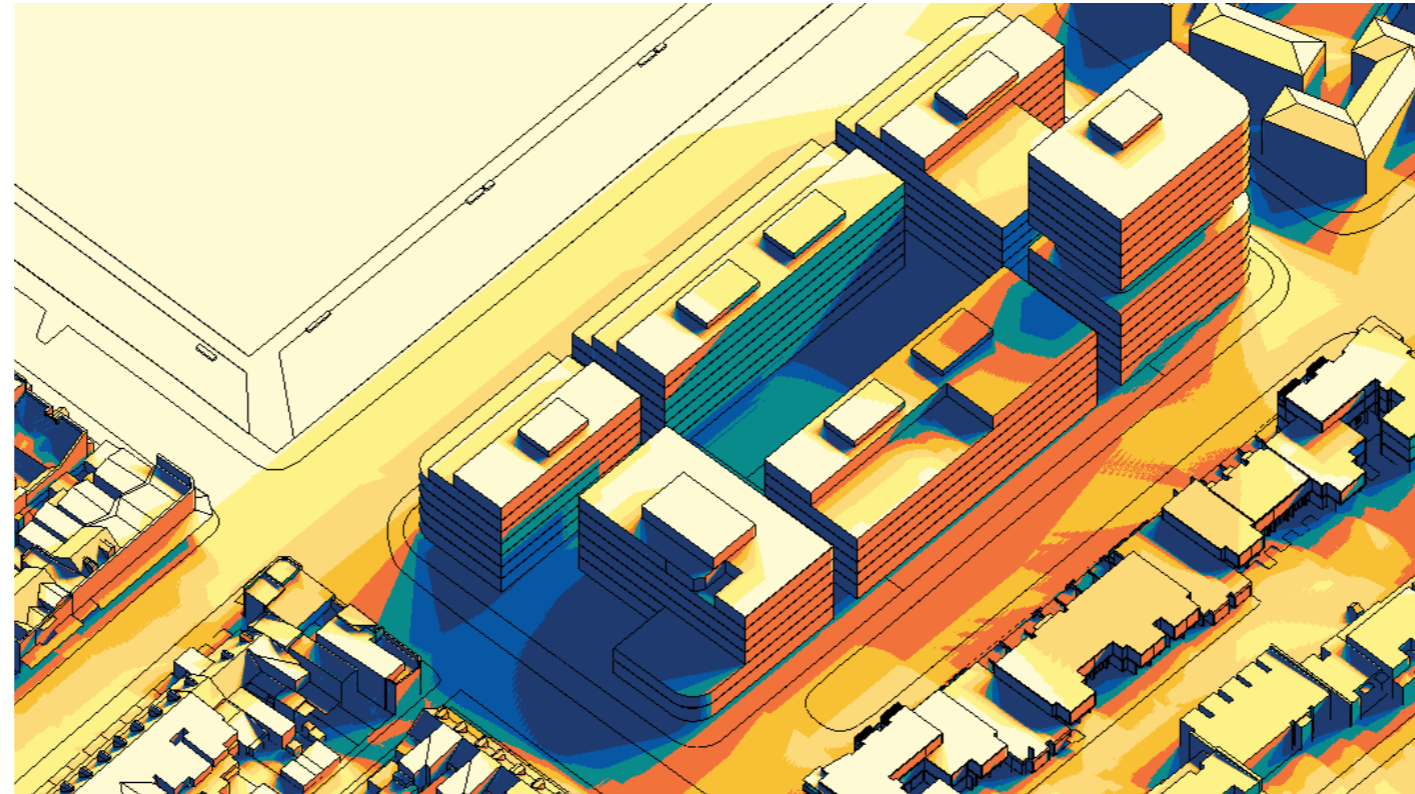
## Solar access to apartments

Detailed testing of the Bonus Scheme demonstrates that apartments are capable of achieving compliance with solar access requirements in the ADG.

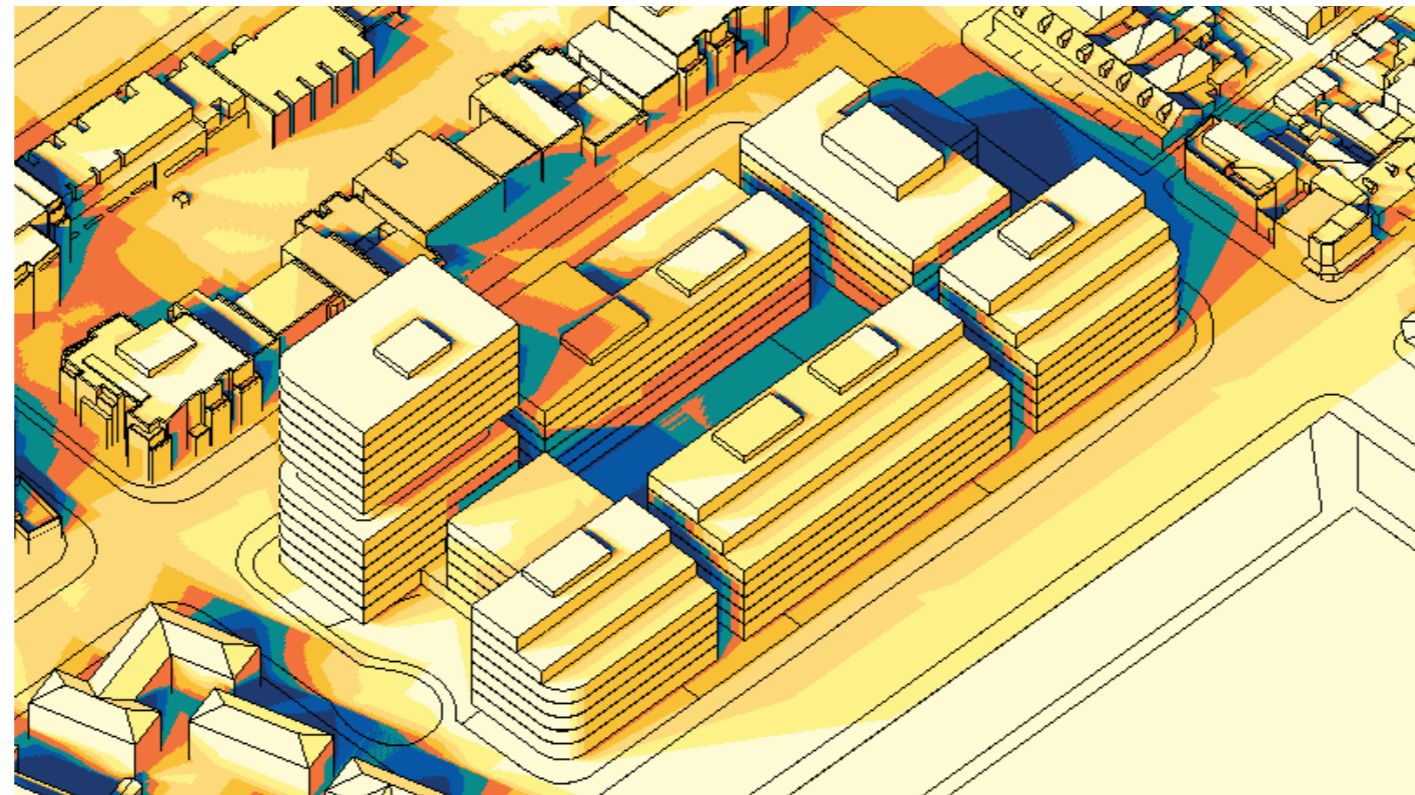
The ADG requires at least 70% of apartments in a building to receive a minimum of 2 hours direct sunlight between 9am and 3pm at mid winter.

The Reference Scheme demonstrates that 79% of apartments are capable of receiving 2hrs direct sunlight at mid winter.

Total Development	
Total apartments	351
Apartments receiving 2 hours	278
Apartments receiving no sun	29
% Receiving no sun	8%
% Compliant with standards	<b>79%</b> ✓



South east view - solar access analysis



North west view - solar access analysis

Legend

- >6 hours of sun
- 5-6 hours of sun
- 4-5 hours of sun
- 3-4 hours of sun
- 2-3 hours of sun
- 1-2 hours of sun
- 0-1 hour of sun
- 0 hour of sun



Level G	
Apartment no.	33
ADG compliant	22
% Compliant with standards	<b>67%</b>
Apartments with no sun	5
% No sun	<b>15%</b>

Legend

- > 2hours direct sunlight
- No sun

# Bonus Scheme



Level 01	
Apartment no.	53
ADG compliant	38
% Compliant with standards	<b>72%</b>
Apartments with no sun	8
% No sun	<b>15%</b>



Level 02	
Apartment no.	52
ADG compliant	38
% Compliant with standards	<b>73%</b>
Apartments with no sun	6
% No sun	<b>12%</b>



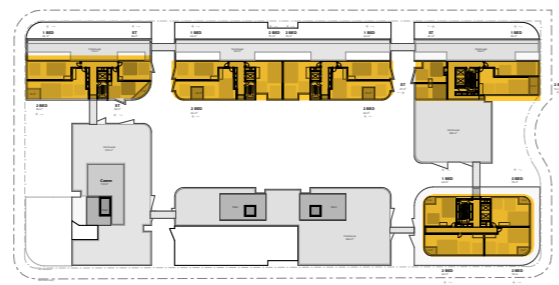
Level 03	
Apartment no.	52
ADG compliant	39
% Compliant with standards	<b>75%</b>
Apartments with no sun	4
% No sun	<b>8%</b>



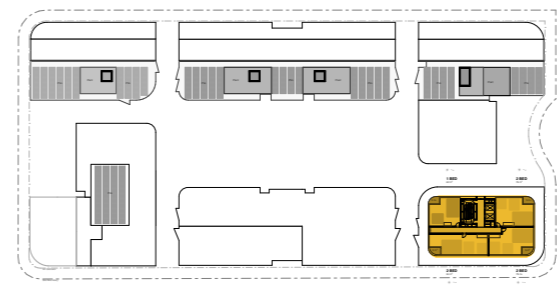
Level 04	
Apartment no.	52
ADG compliant	39
% Compliant with standards	<b>75%</b>
Apartments with no sun	3
% No sun	<b>6%</b>



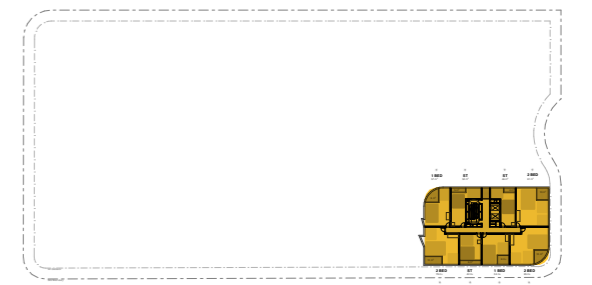
Level 05	
Apartment no.	43
ADG compliant	36
% Compliant with standards	<b>84%</b>
Apartments with no sun	3
% No sun	<b>7%</b>



Level 06	
Apartment no.	18
ADG compliant	18
% Compliant with standards	<b>100%</b>
Apartments with no sun	0
% No sun	<b>0%</b>



Level 07 - 08	
Apartment no.	8
ADG compliant	8
% Compliant with standards	<b>100%</b>
Apartments with no sun	0
% No sun	<b>0%</b>



Level 09 - 13	
Apartment no.	40
ADG compliant	40
% Compliant with standards	<b>100%</b>
Apartments with no sun	0
% No sun	<b>0%</b>



# Bonus Scheme

## Shadow analysis - Bonus Scheme

Shadow analysis has been prepared to understand the impact of shadows cast by the Bonus Scheme. Shadows were assessed during the winter solstice between 9am and 3pm.

### Redfern Park

- No overshadowing between 9am and 3pm on the winter solstice

### Walker Street

- Apartment buildings comply with the ADG.
- Some overshadowing to the front facade of townhouses
- Backyards to receive a minimum of 3 hours solar access in mid winter.
- No additional overshadowing to backyards not receiving 3hrs of solar access under existing conditions

### Phillip Street

- Complies with Sydney DCP.



9am



10am



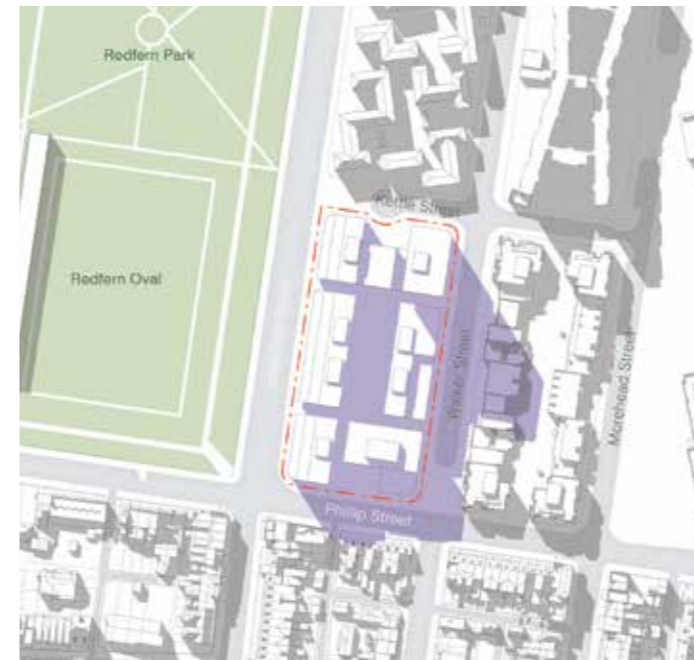
11am



12pm



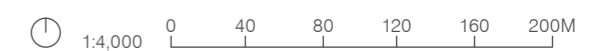
1pm



2pm



3pm



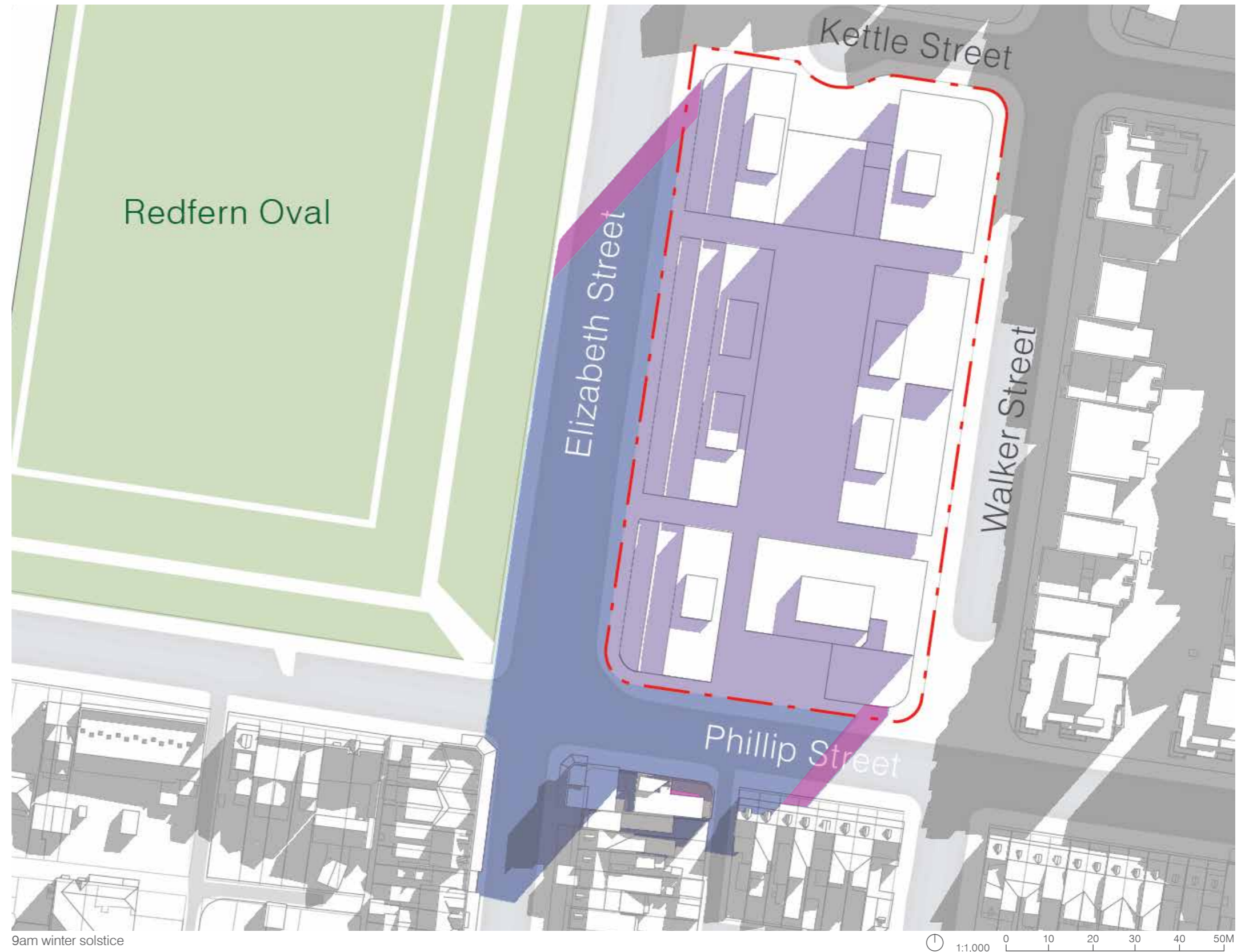


# Bonus Scheme

## Redfern Park and Oval

The scheme complies with the study requirements specifying that shadow and solar analysis is to consider no further shadow impacts on Redfern Park or Oval between 9am and 3pm at mid winter.

The adjacent diagram shows an overlay of the Reference and Bonus Scheme shadow impacts. This overlay demonstrates that the additional resulting shadow impact is very minor and does not result in any overshadowing on Redfern Park or Oval between 9am and 3pm at mid winter.



### Legend

- Bonus Scheme shadow
- Reference Scheme shadow



