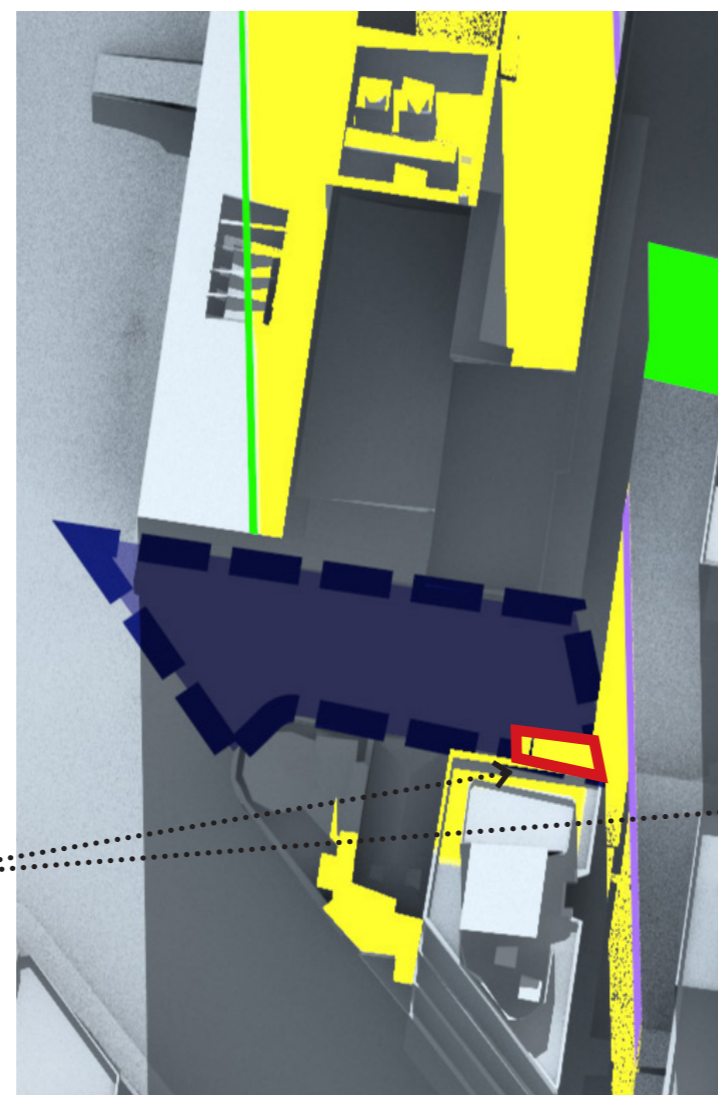
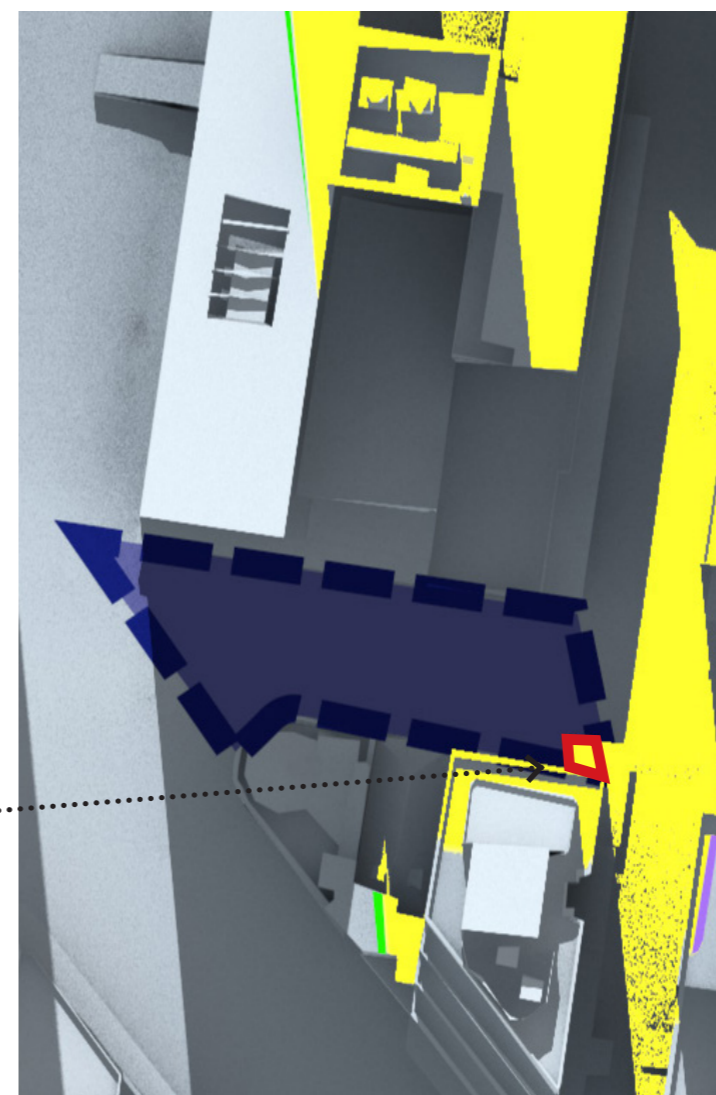


## KEY:

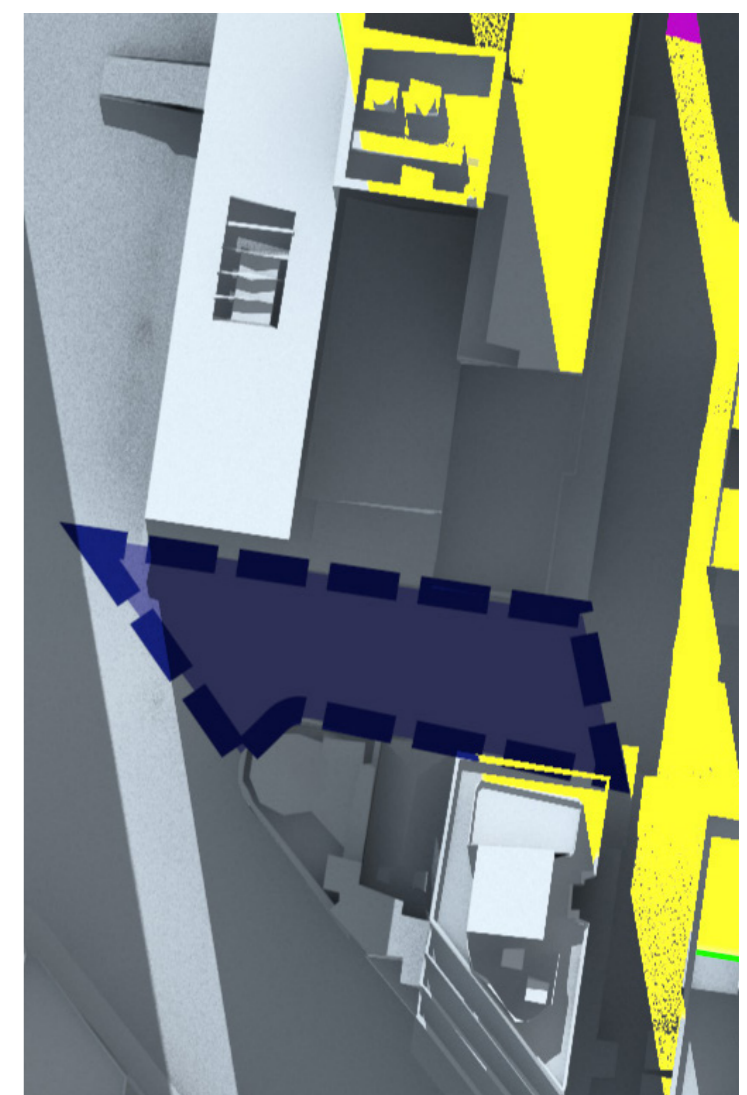
- OSD BUILDING ENVELOPE
- VICTORIA CROSS STATION CSSI ENVELOPE
- SHADOWS CAST BY EXISTING BUILDINGS
- SHADOWS CAST BY OSD ENVELOPE
- SHADOW CAST BY CSSI ENVELOPE
- REDUCTION OF SHADOWS
- INCREASE IN SHADOWS
- BRETT WHITELEY PLAZA



12pm June 21st - Modified Envelope with Comparison



12:15pm June 21st - Modified Envelope with Comparison



12:30pm June 21st - Modified Envelope with Comparison

# 8.4 SHADOW ANALYSIS RESIDENTIAL AREAS

Clause 6.3 (3.) of the North Sydney Local Environment Plan 2013 (LEP 2013) states that:  
The consent authority may grant development consent to a development on Land in the North Sydney Centre that would exceed the maximum height of buildings shown for the land on the Height of Buildings Map if the consent authority is satisfied that any increase in overshadowing between 9am and 3pm from the March Equinox to the September Equinox (inclusive) will not result in any private open space or window to a habitable room, located outside the North Sydney Centre receiving:  
(a) if it received 2 hours or more of direct sunlight immediately before the commencement of North Sydney LEP 2013 - Less than 2 hours of sunlight, or  
(b) if it received less than 2 hours of direct sunlight immediately before the commencement of North Sydney LEP 2013 - less direct sunlight than it did immediately before that commencement

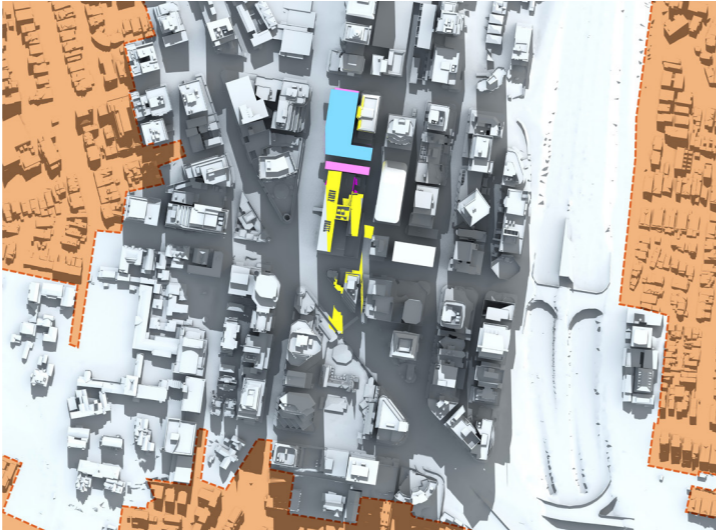
Shadow diagrams have been prepared to address this control and are attached in full within the appendix. The following pages address the shadow impact of the modified OSD envelope where and when it specifically arises. The adjacent diagrams demonstrate the shadow impact created by the development to the residential areas outside the North Sydney Centre. Both the Approved OSD Concept SSD building envelope (Top row) and the modified building envelope (Bottom row) have been analysed.

## WINTER SOLSTICE JUNE 21ST RESIDENTIAL AREAS

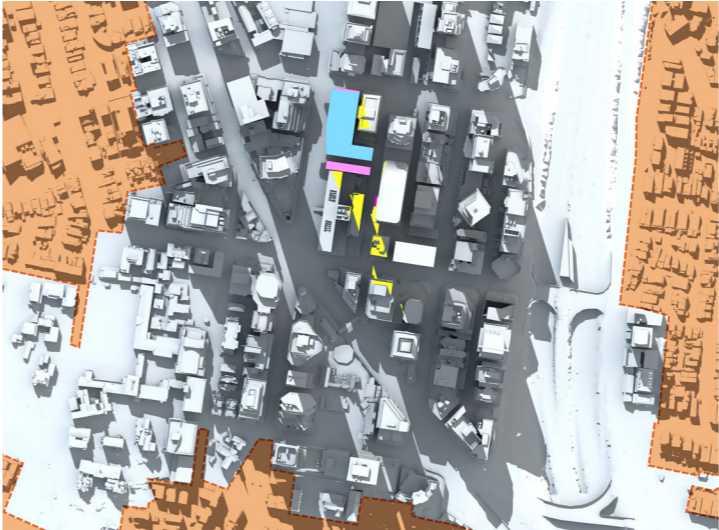
There is no additional shadow created by either the approved or modified building envelope from 9am till 2.30pm. However, at 3.00pm it is evident that the building envelope creates a shadow on a total of 3 residential properties on Whaling Road. The diagrams in the following section explore this in more detail.

The extents of shadow caused by the modified envelope are consistent with those of the approved envelope. There are no additional impacts to the RE1 zones.

- KEY:
- OSD BUILDING ENVELOPE
  - VICTORIA CROSS STATION CSSI ENVELOPE
  - SHADOWS CAST BY EXISTING BUILDINGS
  - SHADOWS CAST BY OSD ENVELOPE
  - SHADOW CAST BY CSSI ENVELOPE
  - REDUCTION OF SHADOWS
  - INCREASE IN SHADOWS
  - RE1 RESIDENTIAL AREAS



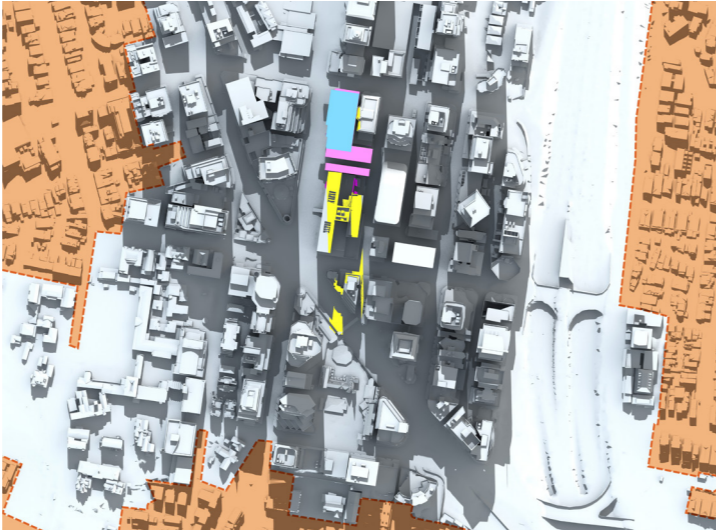
12.00pm June 21st - Approved Envelope



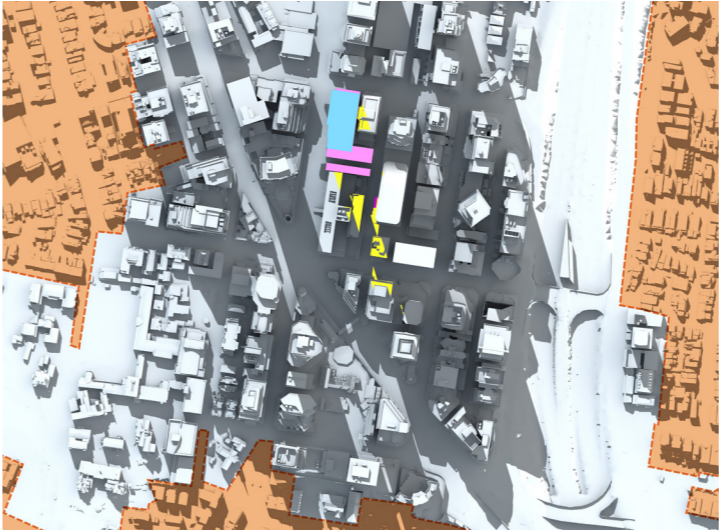
1pm June 21st - Approved Envelope



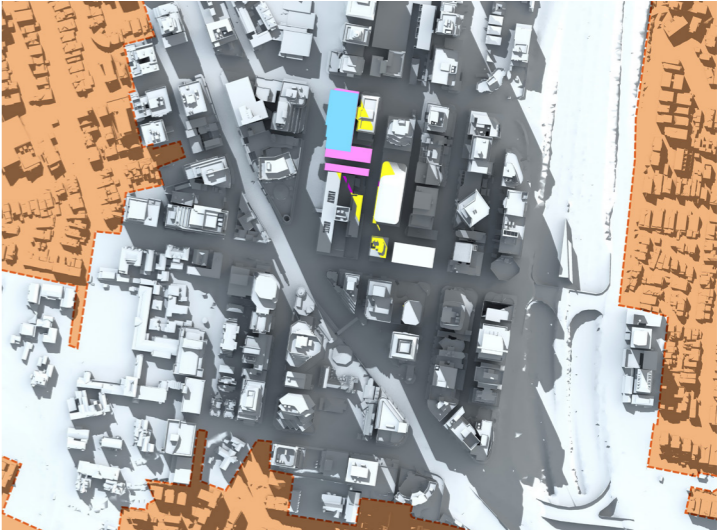
1.30pm June 21st - Approved Envelope



12.00pm June 21st - Modified Envelope



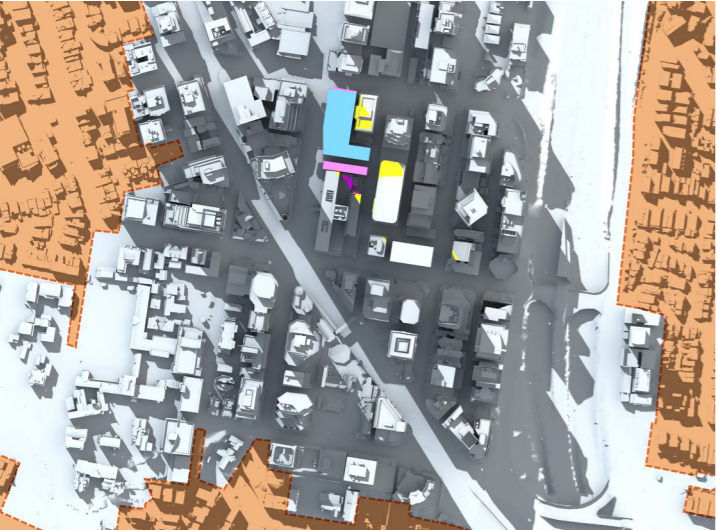
1pm June 21st - Modified Envelope



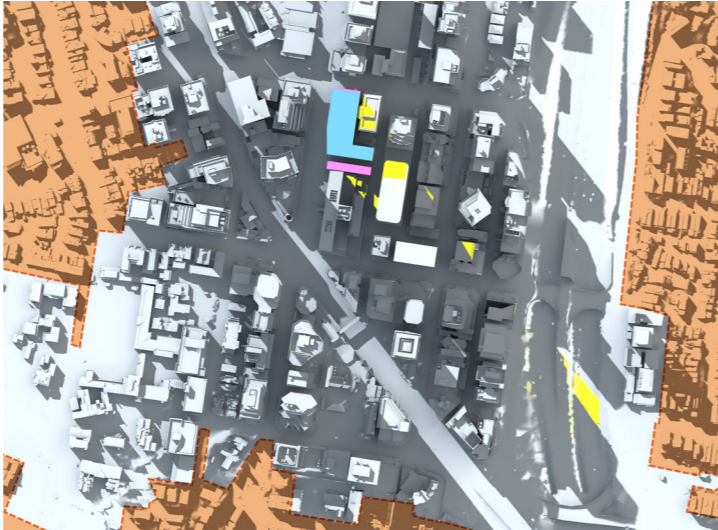
1.30pm June 21st - Modified Envelope

KEY:

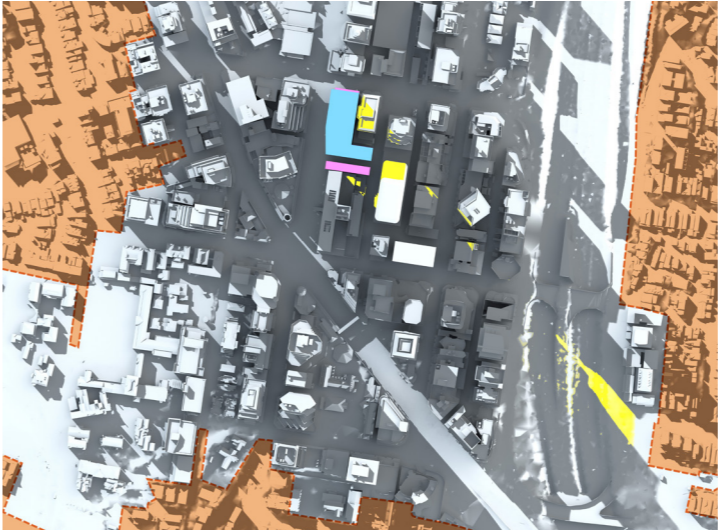
- OSD BUILDING ENVELOPE
- VICTORIA CROSS STATION CSSI ENVELOPE
- SHADOWS CAST BY EXISTING BUILDINGS
- SHADOWS CAST BY OSD ENVELOPE
- SHADOW CAST BY CSSI ENVELOPE
- REDUCTION OF SHADOWS
- INCREASE IN SHADOWS
- RE1 RESIDENTIAL AREAS



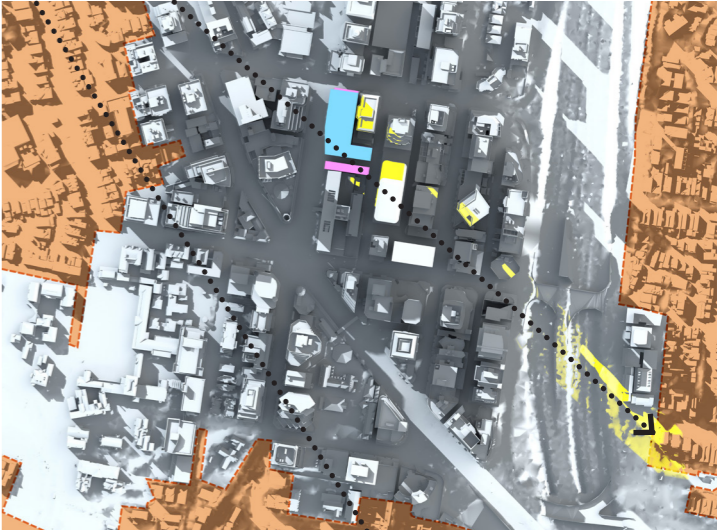
2pm June 21st - Approved Envelope



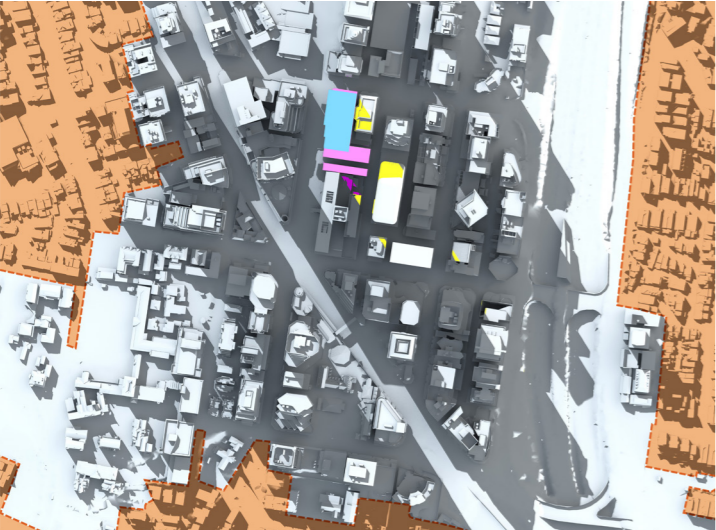
2.30pm June 21st - Approved Envelope



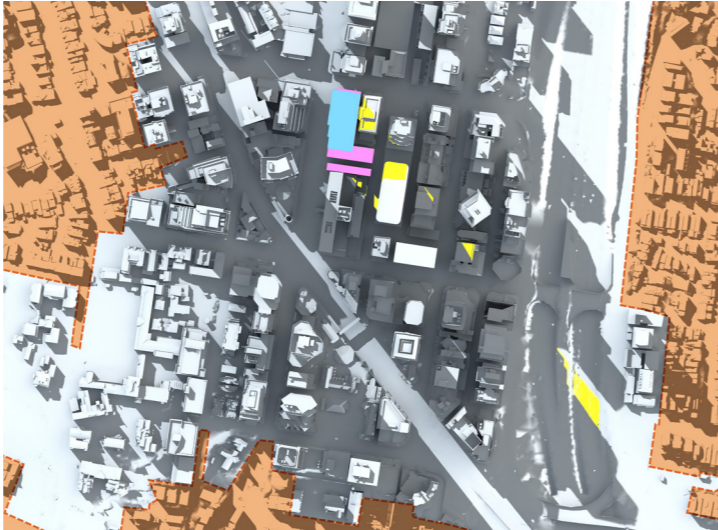
2.45pm June 21st - Approved Envelope



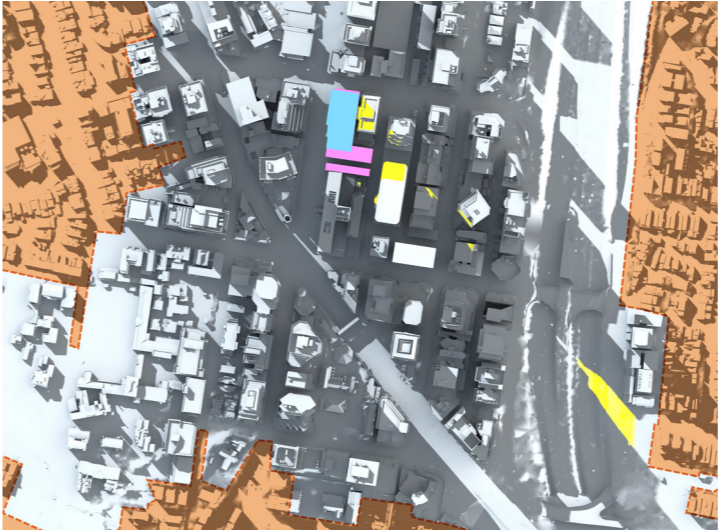
3pm June 21st - Approved Envelope



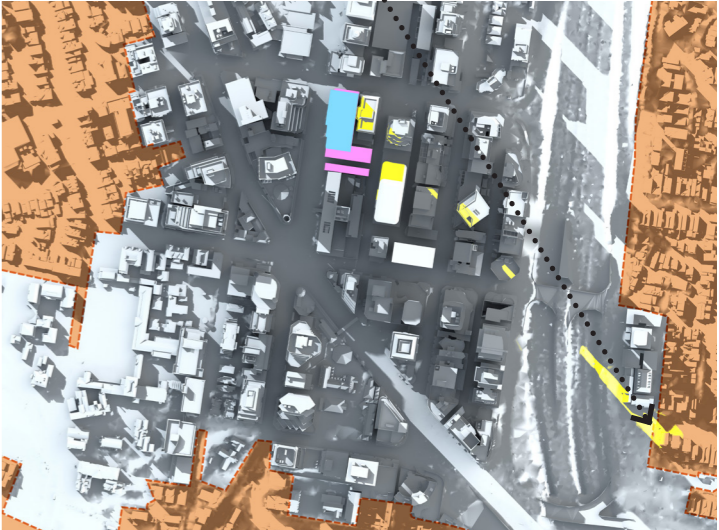
2pm June 21st - Modified Envelope



2.30pm June 21st - Modified Envelope



2.45pm June 21st - Modified Envelope



3pm June 21st - Modified Envelope

# 8.5

## SHADOW ANALYSIS

### RESIDENTIAL PROPERTIES

#### WINTER SOLSTICE JUNE 21ST

##### RESIDENTIAL PROPERTIES

The adjacent diagrams demonstrate the shadow impact created by the both the approved OSD Concept SSD building envelope and the modified building envelope in relation to the residential properties on Whaling Road.

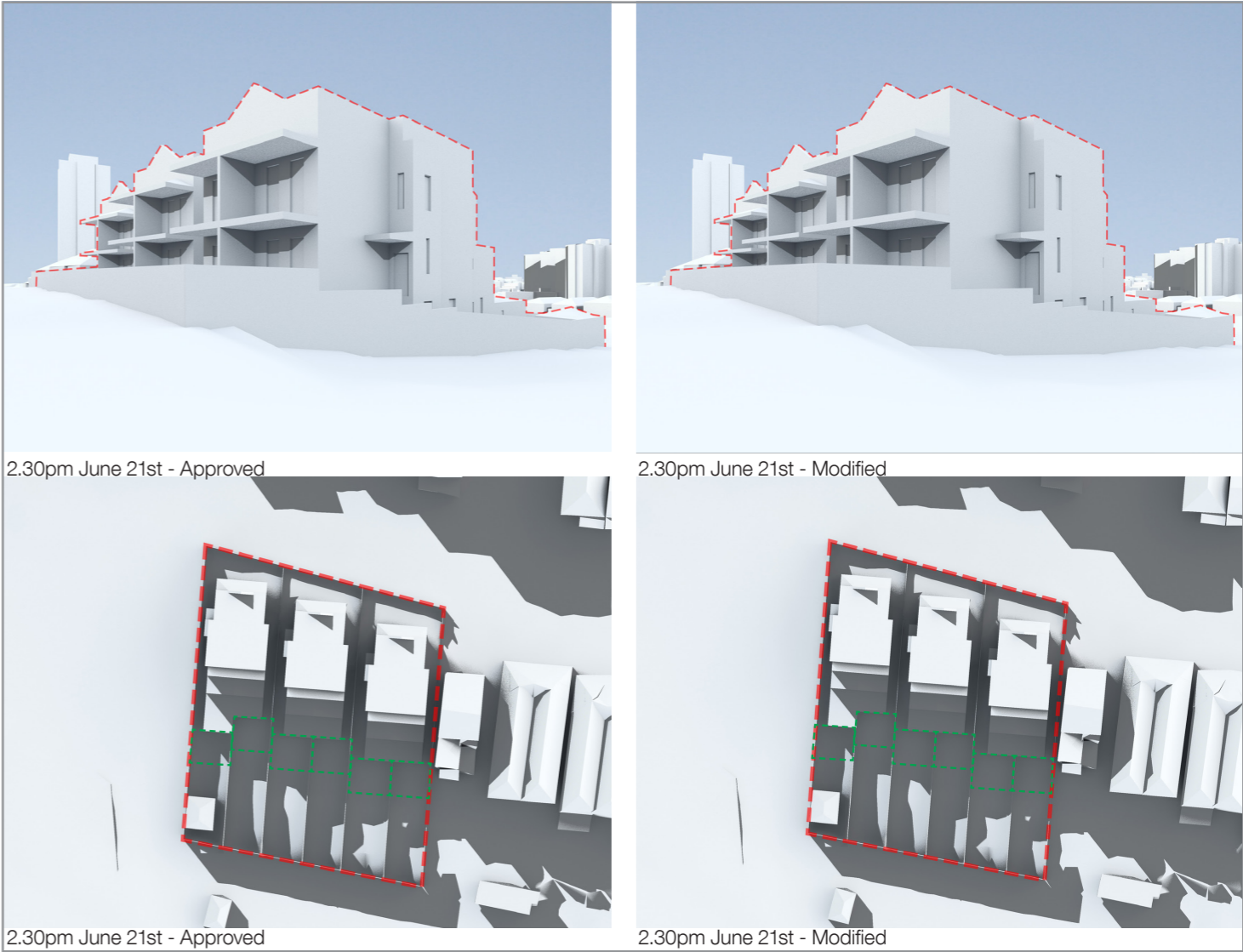
The North Sydney Centre Local Environmental Plan prohibits any additional overshadowing to any window or private open space that currently receives less than 2 hours of direct sunlight. The diagrams show that the windows of residential properties at No's 1, 3, 5 and 11 Whaling Road receive at least 2 hours of direct sunlight between 12.30pm and 2.30pm on June 21st. The south facing private open spaces (indicated in a green dashed outline) are not affected by the shadow cast by either the approved or the modified building envelope as the shadow falls outside the area defined as the principle private open space.



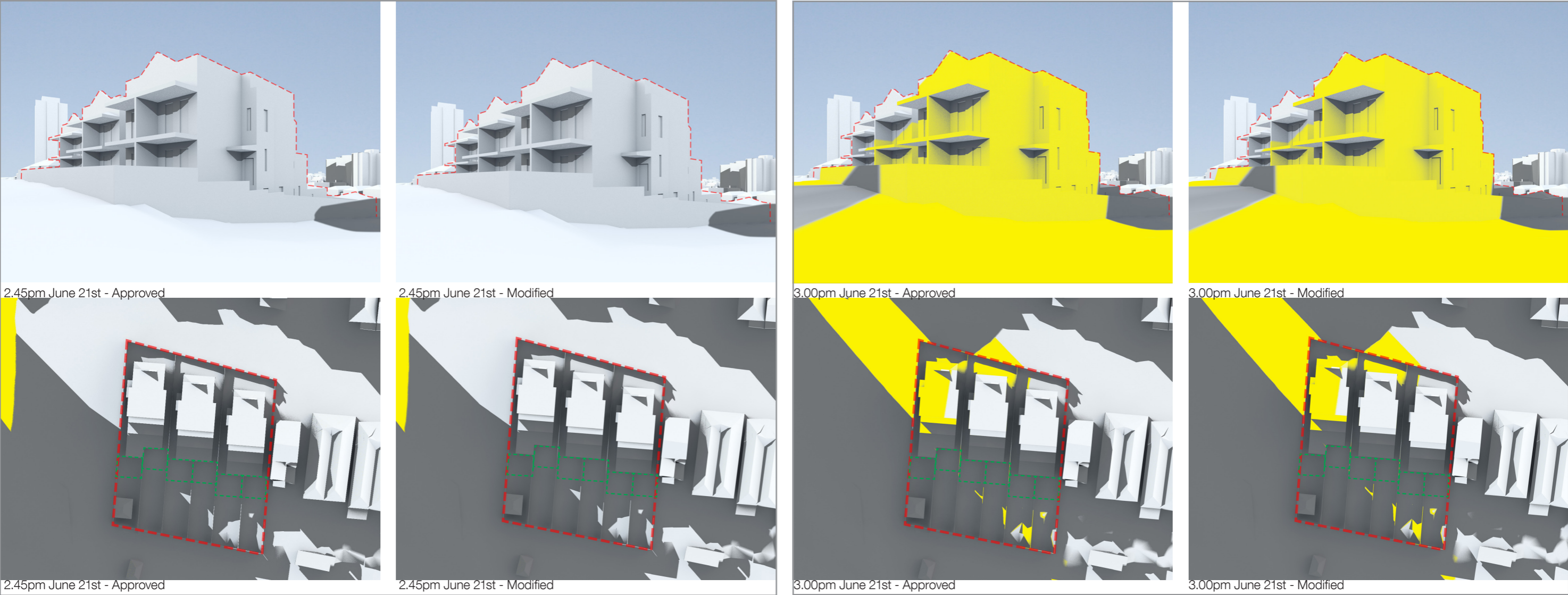
Residential Property at No. 1 Whaling Road - The shows the residential property at No. 1 Whaling Road. Directly to the west is Alfred Park. Considerable overshadowing is caused by the mature trees that surround the park. We have not taken these into consideration but they would have an impact on the solar access to the property at 1 Whaling Road.

KEY:

- EXISTING SHADOW
- SHADOWS CAST BY OSD ENVELOPE
- PRINCIPAL PRIVATE OPEN SPACE (INFORMED BY NORTH SYDNEY DCP 2013)



- KEY:
- EXISTING SHADOW
  - SHADOWS CAST BY OSD ENVELOPE
  - PRINCIPAL PRIVATE OPEN SPACE  
(INFORMED BY NORTH SYDNEY DCP 2013)



**2:45PM IMPACT**  
The impact to the Whaling Road Terraces is the same when comparing the approved and modified envelopes.

**3PM IMPACT**  
The impact to the Whaling Road Terraces is the same when comparing the approved and modified envelopes.

# 8.6 SHADOW ANALYSIS ALEXANDER APARTMENTS

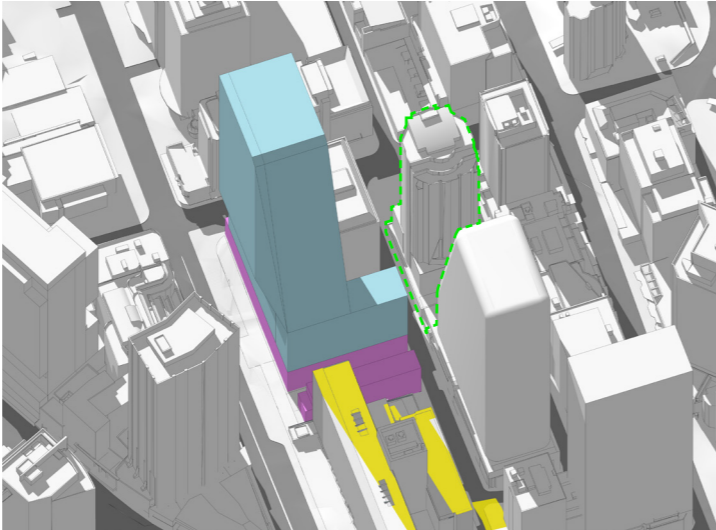
Objective 3B-2 of the Apartment Design Guide states that “where an adjoining property does not currently receive the required hours of solar access, the proposed building ensures solar access to neighbouring properties is not reduced by more than 20%.”

## WINTER SOLSTICE JUNE 21ST

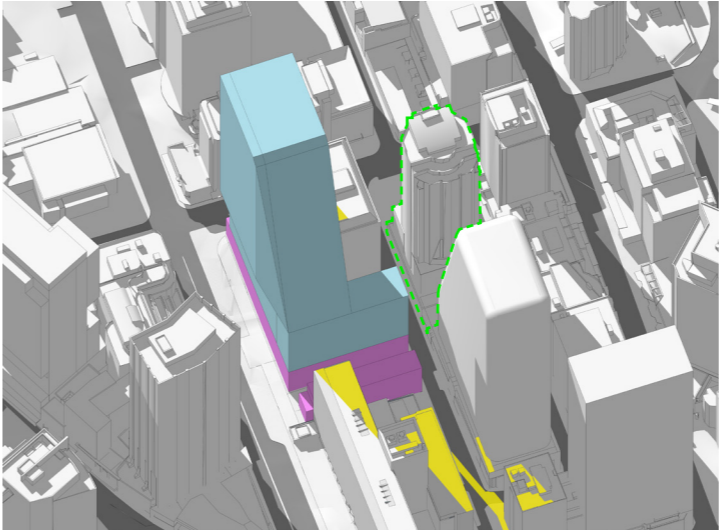
### ALEXANDER APARTMENTS BUILDING

The following diagrams demonstrate that both the OSD Concept SSD building envelope and the modified envelope have no impact on the Alexander Apartment Building on the Winter Solstice (June 21st) until around 2.00pm where it begins to cast a shadow on the western facade of the Alexander Building. After 2:00pm there is minimal difference between the two envelopes.

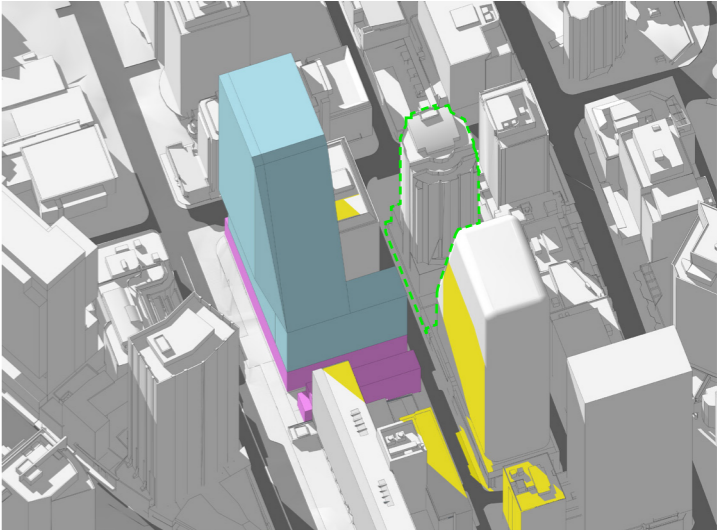
- KEY:
- OSD CONCEPT SSD BUILDING ENVELOPE (TOP ROW) / MODIFIED ENVELOPE (BOTTOM ROW)
  - VICTORIA CROSS STATION CSSI APPROVAL
  - ALEXANDER BUILDING
  - EXISTING SHADOW
  - SHADOW CAST BY OSD ENVELOPE
  - SHADOW CAST BY OSD ENVELOPE ON ALEXANDER APARTMENTS



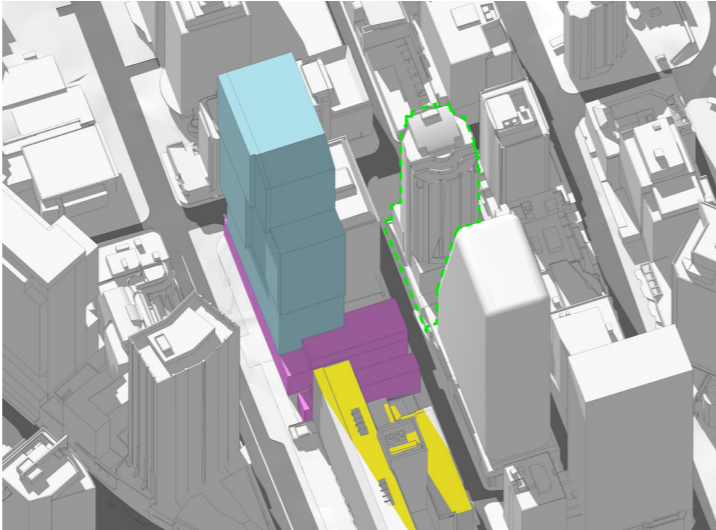
12pm June 21st - Approved Envelope



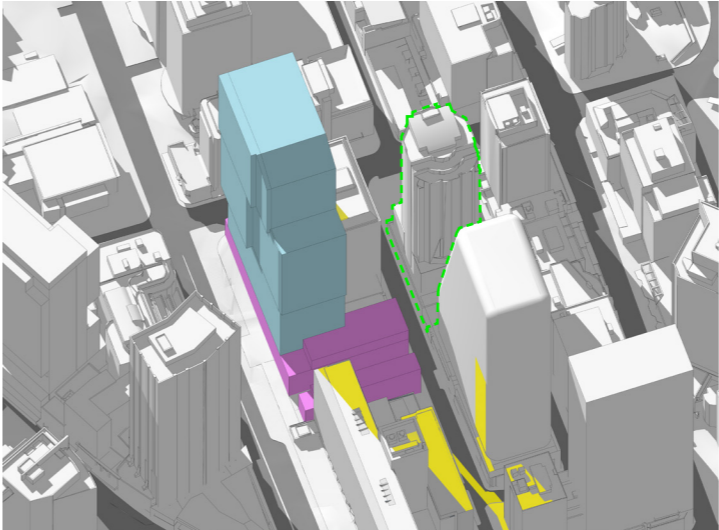
12.30pm June 21st - Approved Envelope



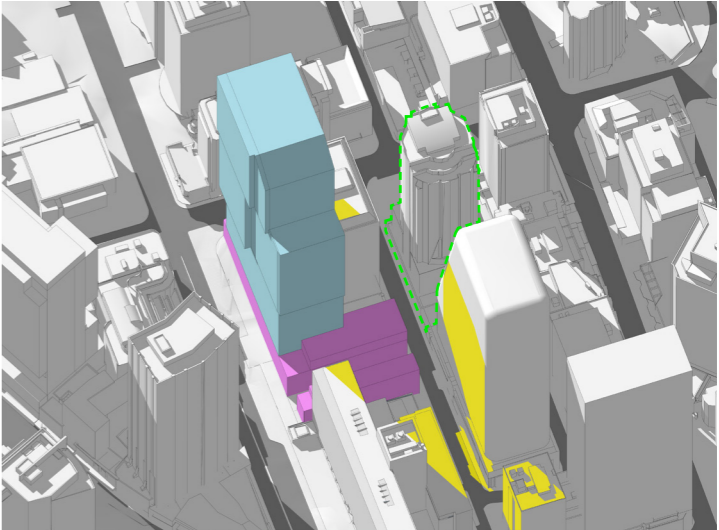
1pm June 21st - Approved Envelope



12pm June 21st - Modified Envelope

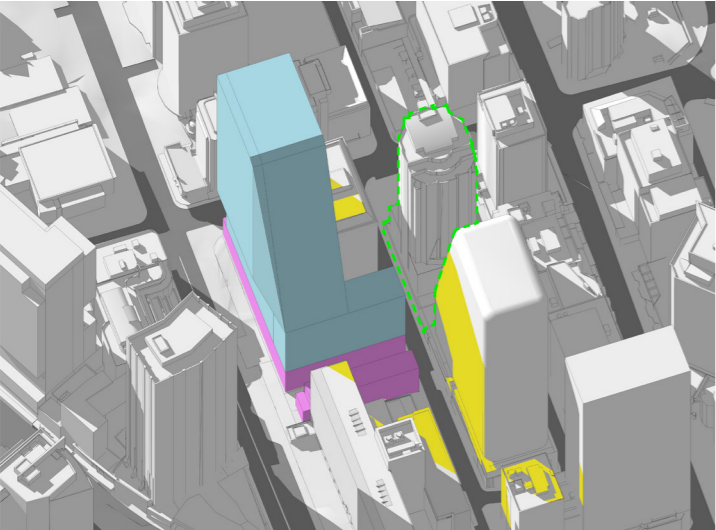


12.30pm June 21st - Modified Envelope

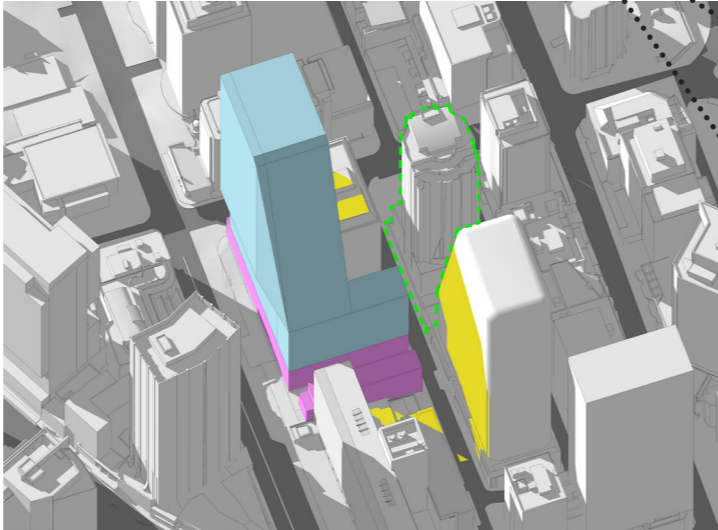


1pm June 21st - Modified Envelope

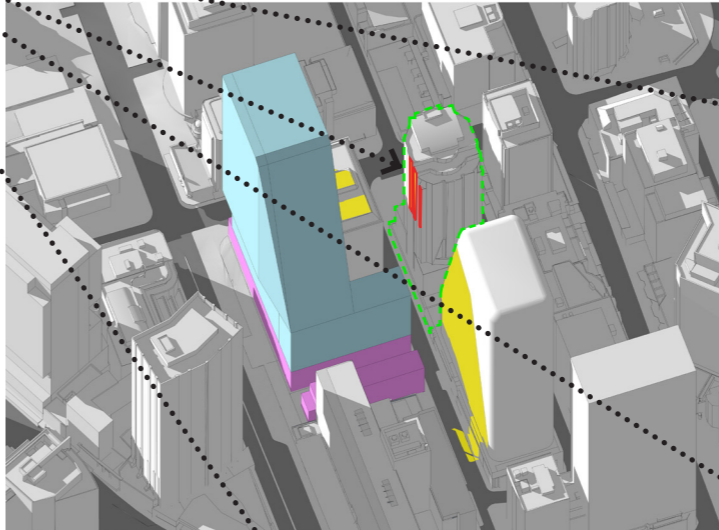
- KEY:
- OSD CONCEPT SSD BUILDING ENVELOPE (TOP ROW) /  
MODIFIED ENVELOPE (BOTTOM ROW)
  - VICTORIA CROSS STATION  
CSSI APPROVAL
  - ALEXANDER BUILDING
  - EXISTING SHADOW
  - SHADOW CAST BY OSD ENVELOPE
  - SHADOW CAST BY OSD ENVELOPE ON ALEXANDER  
APARTMENTS



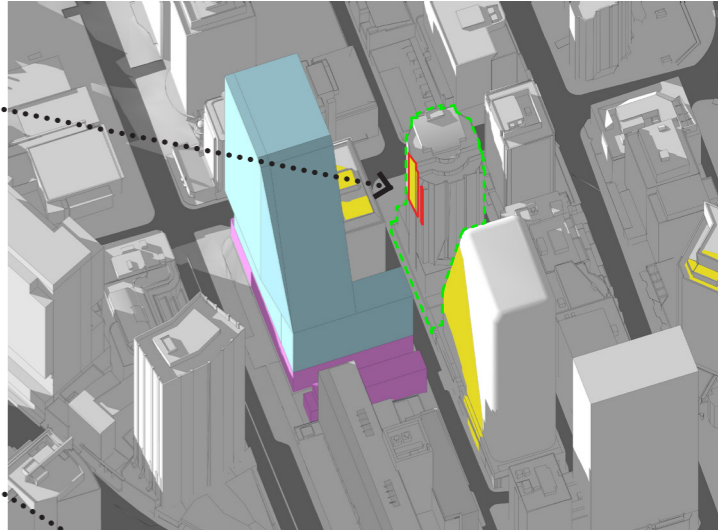
1.30pm June 21st - Approved Envelope



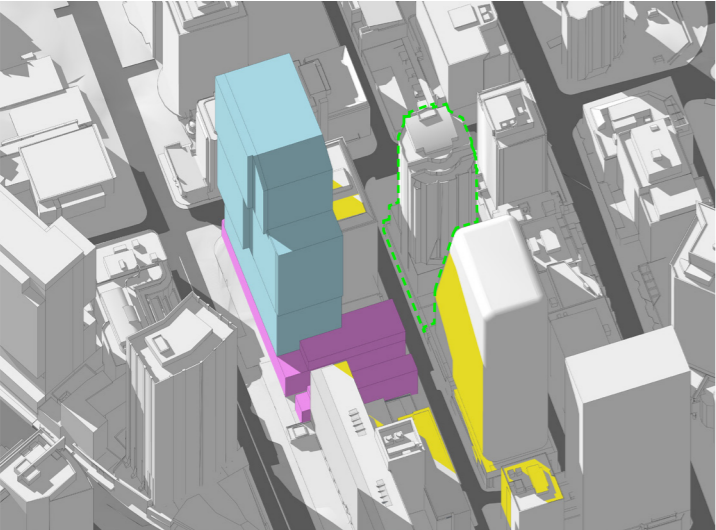
2pm June 21st - Approved Envelope



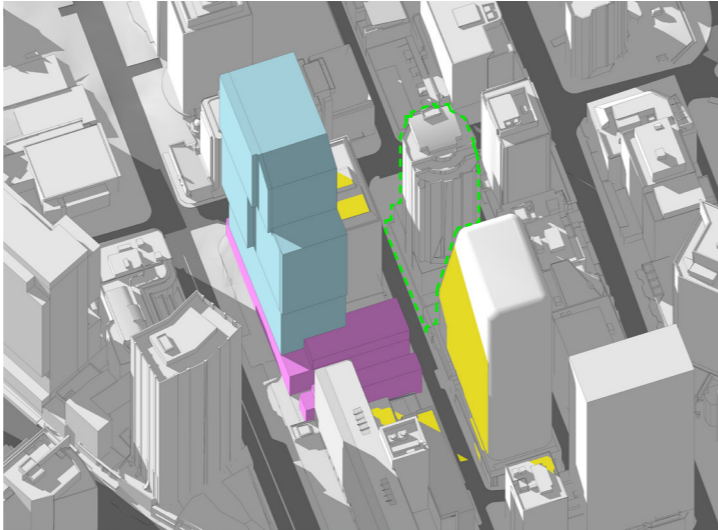
2.30pm June 21st - Approved Envelope



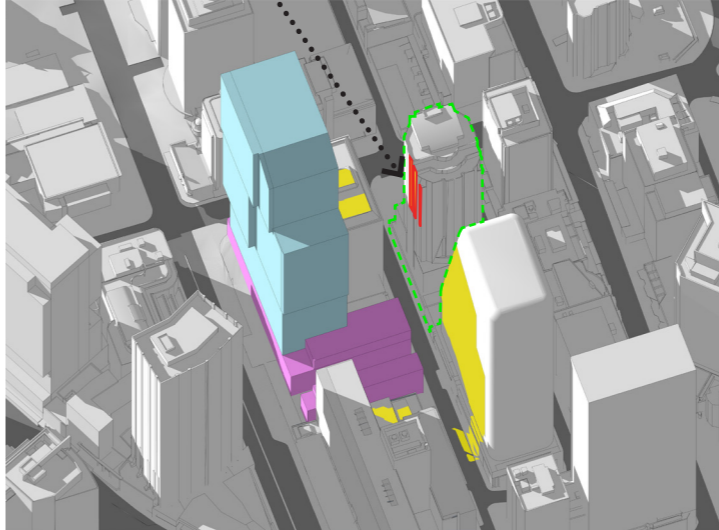
3pm June 21st - Approved Envelope



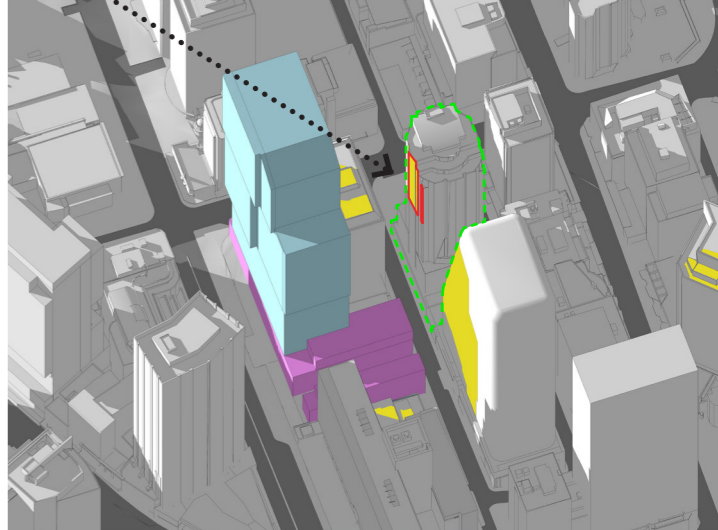
1.30pm June 21st - Modified Envelope



2pm June 21st - Modified Envelope



2.30pm June 21st - Modified Envelope



3pm June 21st - Modified Envelope

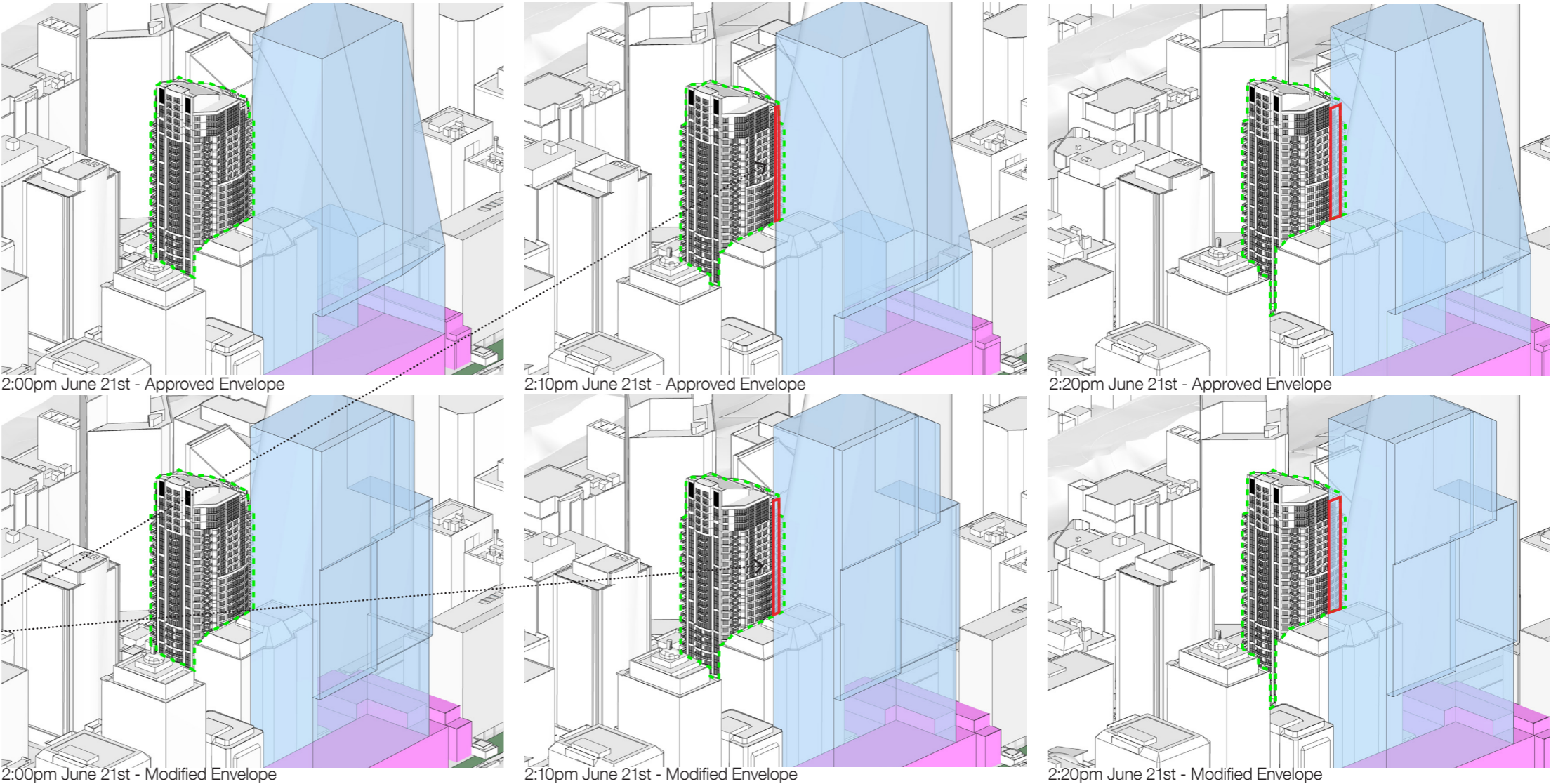
# 8.6 SHADOW ANALYSIS ALEXANDER APARTMENTS

Objective 3B-2 of the Apartment Design Guide states that “where an adjoining property does not currently receive the required hours of solar access, the proposed building ensures solar access to neighbouring properties is not reduced by more than 20%.”

**WINTER SOLSTICE - 21ST OF JUNE**

The adjacent views from the sun indicate the extent of overshadowing caused by both the approved OSD Concept building envelope (top row) and the modified building envelope (bottom row). On the 21st of June at 2:00pm both envelopes begin to overshadow the Alexander Apartments Building. Despite the variation between the approved and the modified envelopes there is minimal difference between the two envelopes. Both envelopes reduce the total number of apartments achieving 2 hours solar access by 3% of the total number of apartments. However, the modified envelope projects 500mm further to the North than the approved envelope and the following section illustrates the additional impact from the modified envelope which is negligible.

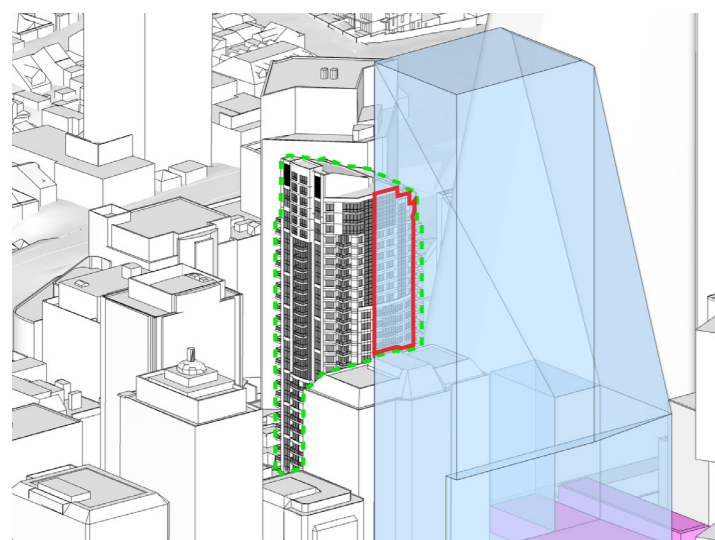
- KEY:
- OSD CONCEPT SSD BUILDING ENVELOPE (TOP ROW) / MODIFIED ENVELOPE (BOTTOM ROW)
  - VICTORIA CROSS STATION CSSI APPROVAL
  - ALEXANDER APARTMENTS BUILDING
  - SHADOW CAST BY OSD ENVELOPE ON ALEXANDER APARTMENTS BUILDING



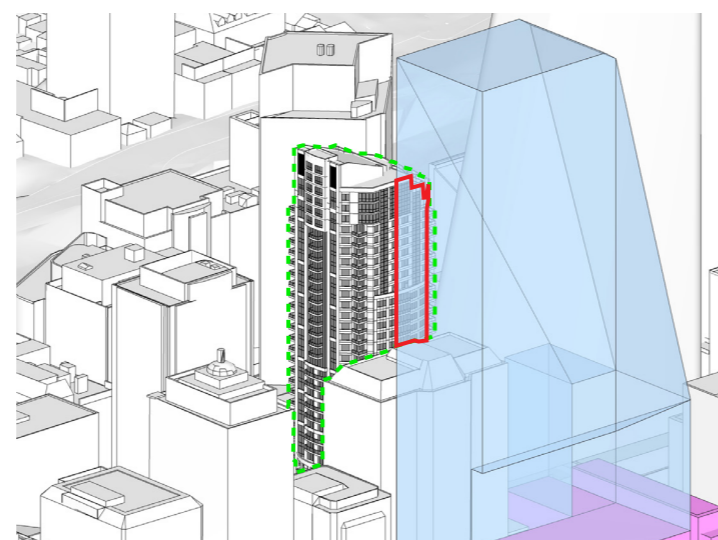
**NOTE:**  
Shadow studies are not verified by survey information.

## KEY:

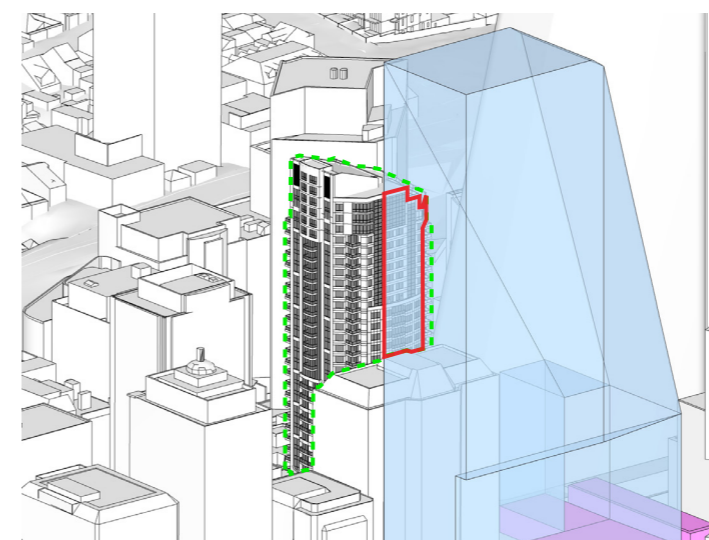
- OSD CONCEPT SSD BUILDING ENVELOPE (TOP ROW) /  
MODIFIED ENVELOPE (BOTTOM ROW)
- VICTORIA CROSS STATION  
CSSI APPROVAL
- ALEXANDER APARTMENTS BUILDING
- SHADOW CAST BY OSD ENVELOPE ON ALEXANDER  
APARTMENTS BUILDING



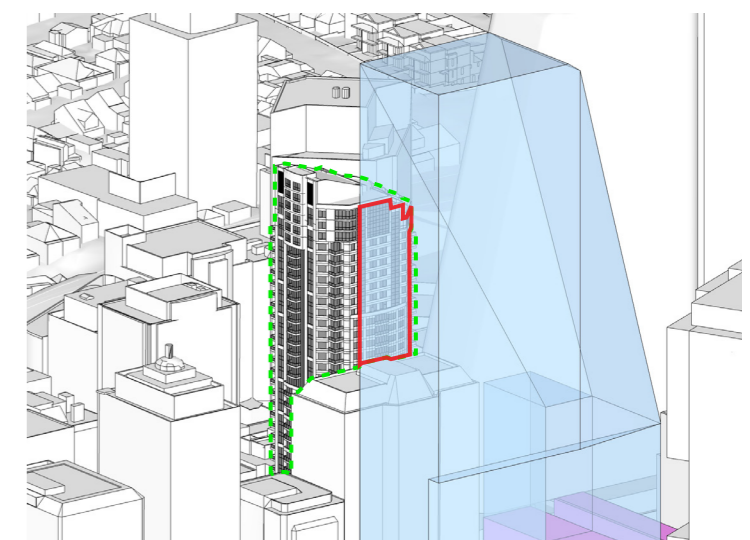
2:30pm June 21st - Approved Envelope



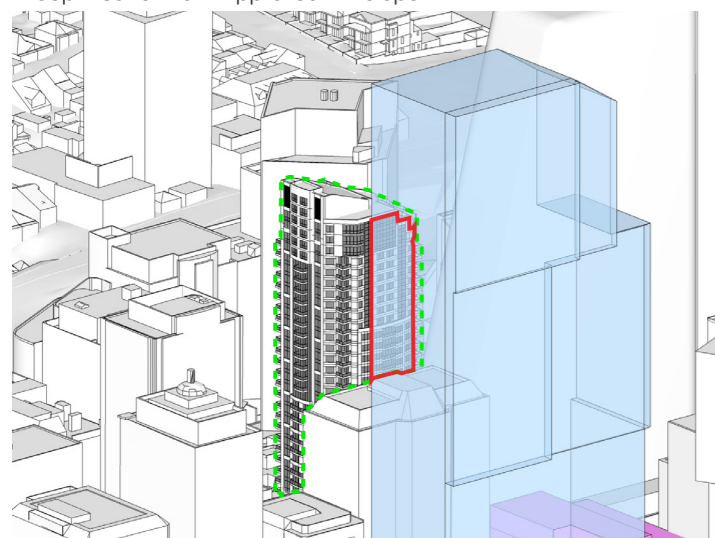
2:40pm June 21st - Approved Envelope



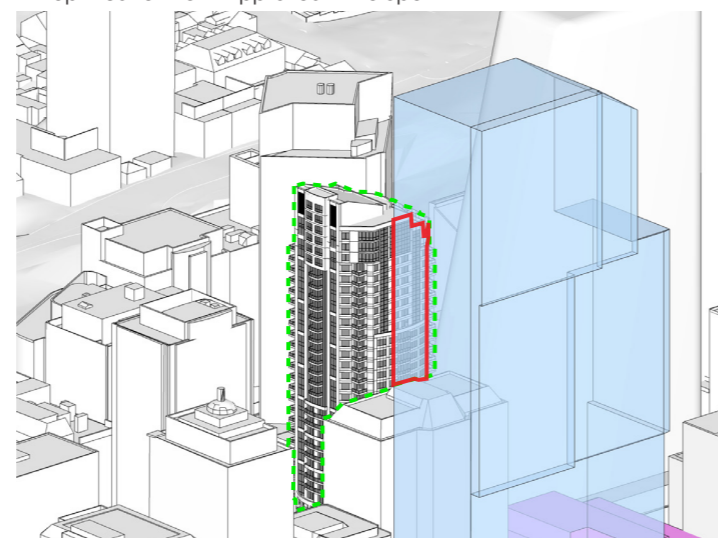
2:50pm June 21st - Approved Envelope



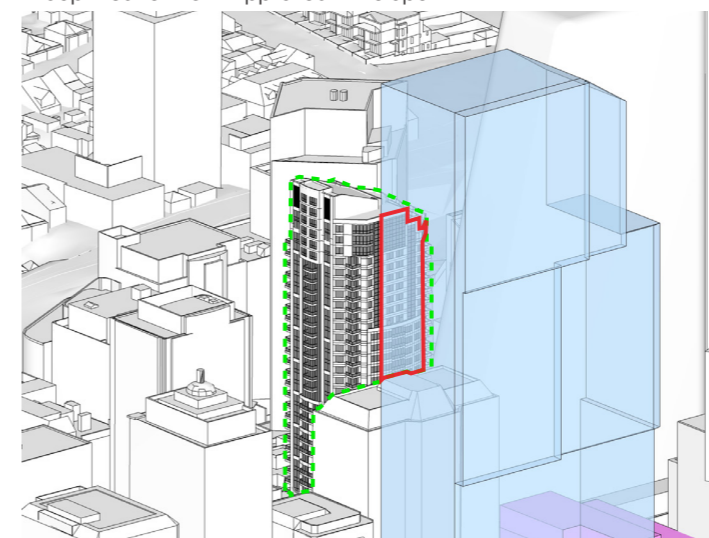
3pm June 21st - Approved Envelope



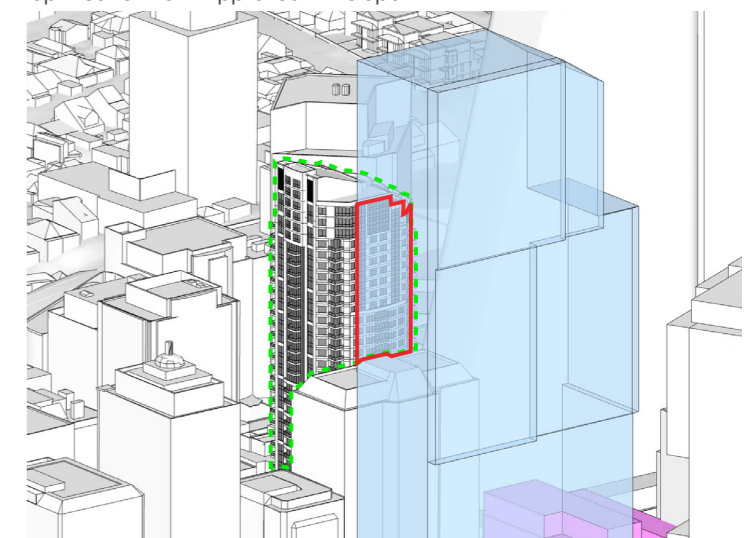
2:30pm June 21st - Modified Envelope



2:40pm June 21st - Modified Envelope



2:50pm June 21st - Modified Envelope



3pm June 21st - Modified Envelope

# 8.6

## SHADOW ANALYSIS

### ALEXANDER APARTMENTS

Objective 3B-2 of the Apartment Design Guide states that “where an adjoining property does not currently receive the required hours of solar access, the proposed building ensures solar access to neighbouring properties is not reduced by more than 20%.”

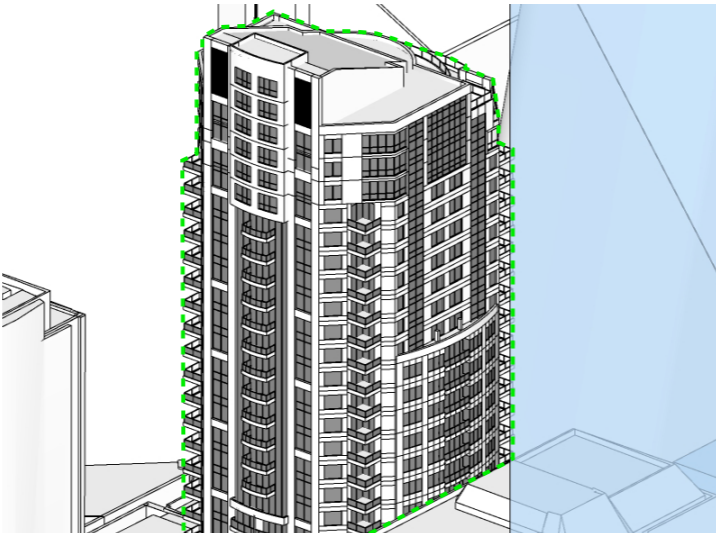
WINTER SOLSTICE - 21ST OF JUNE

The adjacent views from the sun indicate the extent of overshadowing caused by both the approved OSD Concept building envelope (top row) and the modified building envelope (bottom row). On the 21st of June at 2:00pm both envelopes begin to overshadow the Alexander Apartment Building. This study should be read in conjunction with the floor plan diagrams and table in the following section.

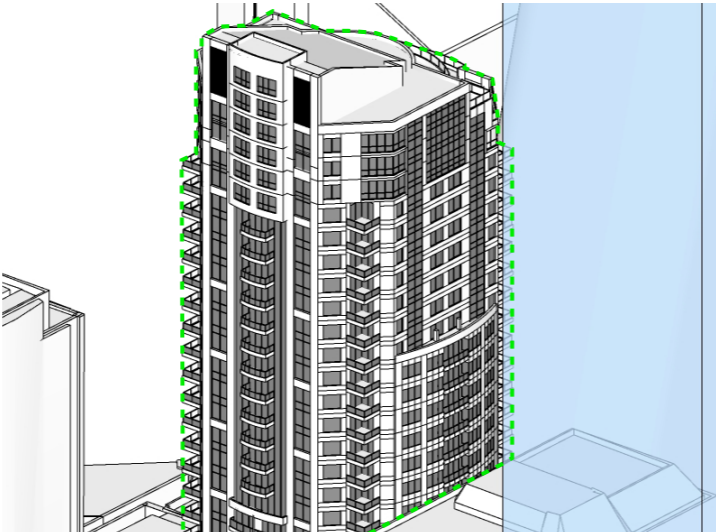
Both envelopes reduce the total number of apartments achieving 2 hours solar access by 3% of the total number of apartments. However, the modified envelope projects 500mm further to the North than the approved envelope and the following section illustrates the additional impact from the modified envelope which is negligible.

- KEY:
- OSD CONCEPT SSD BUILDING ENVELOPE (TOP ROW) / MODIFIED ENVELOPE (BOTTOM ROW)
  - VICTORIA CROSS STATION CSSI APPROVAL
  - ALEXANDER APARTMENTS BUILDING
  - APARTMENT WHERE SOLAR ACCESS IS REDUCED TO LESS THAN 2 HOURS AS A RESULT OF THE SSD ENVELOPE
  - APARTMENT WHERE SOLAR ACCESS IS REDUCED BY THE SSD ENVELOPE BUT STILL RECEIVES MORE THAN 2 HOURS

NOTE:  
Shadow studies are not verified by survey information.



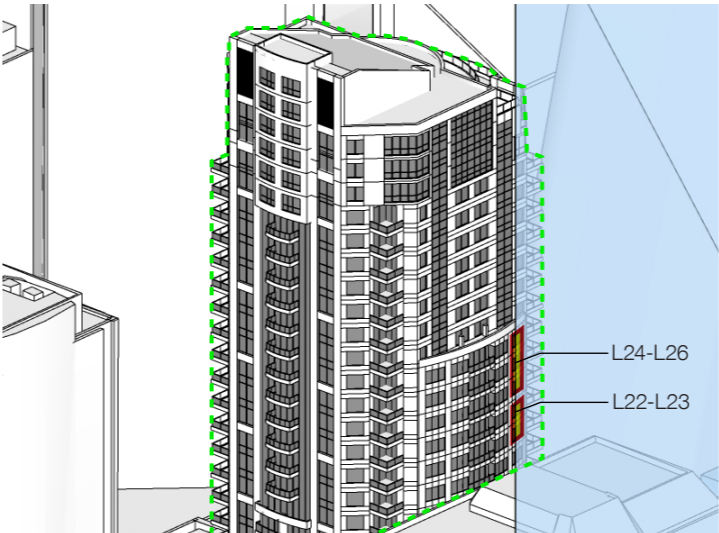
2:00pm June 21st - Approved Envelope



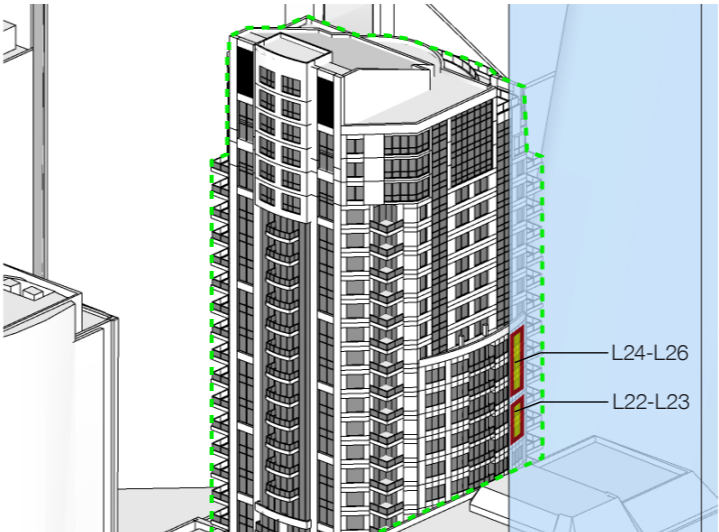
2:00pm June 21st - Modified Envelope

2:00PM IMPACT

At 2:00pm the approved envelope does not impact Alexander Apartments. At the same time the modified envelope begins to reduce solar gain to apartments on levels 22-26. In total 5 apartments are impacted at this point.



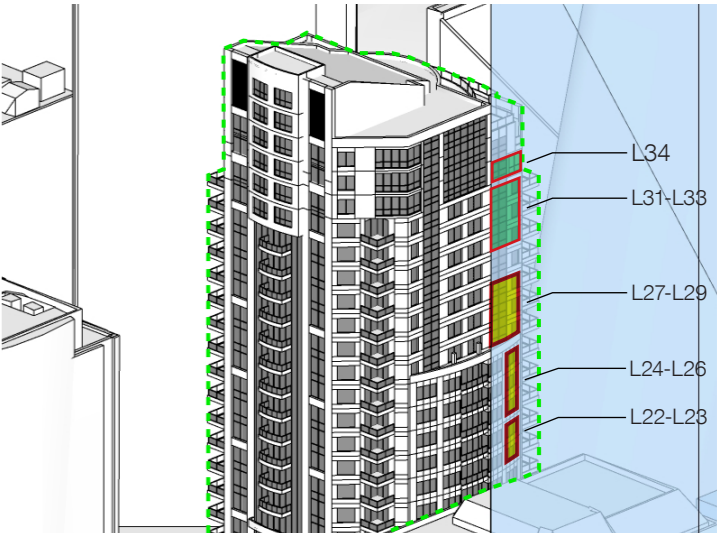
2:10pm June 21st - Approved Envelope



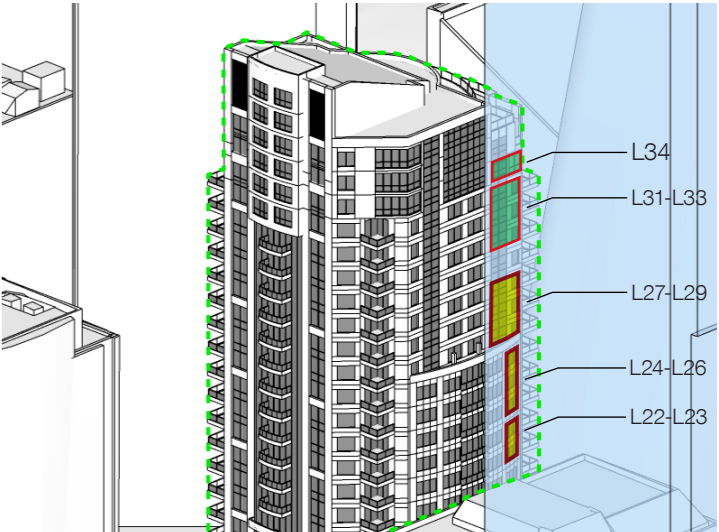
2:10pm June 21st - Modified Envelope

2:10PM IMPACT

At 2:10pm the modified envelope begins to reduce solar gain to apartments on levels 22-26. In total 5 apartments are impacted at this point. There is minimal difference in impact between the approved and modified envelopes.



2:20pm June 21st - Approved Envelope



2:20pm June 21st - Modified Envelope

2:20PM IMPACT

At 2:20pm the modified envelope begins to reduce solar gain to apartments on levels 27-29 and levels 31-34 in addition to levels 22-26. In total 12 apartments are impacted at this point, 8 of those will only receive a total of 100 minutes of solar access where they previously had more than 120 minutes (levels 22-29). There is minimal difference in impact between the approved and modified envelopes.

KEY:

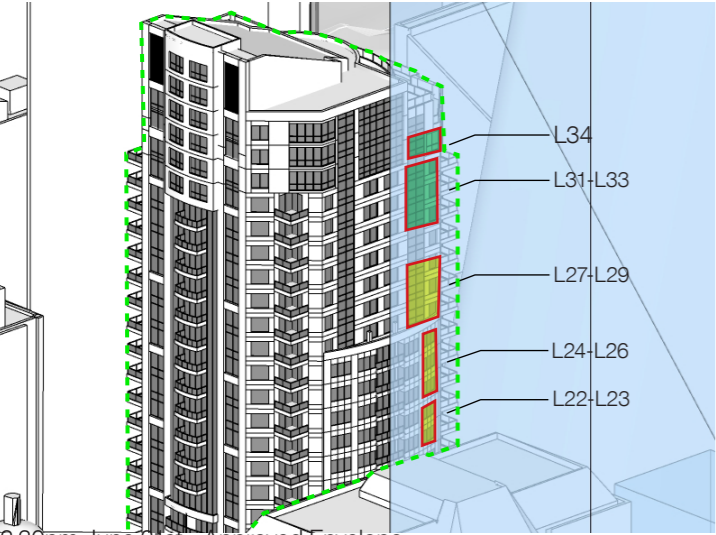
OSD CONCEPT SSD BUILDING ENVELOPE (TOP ROW) /  
MODIFIED ENVELOPE (BOTTOM ROW)

VICTORIA CROSS STATION  
CSSI APPROVAL

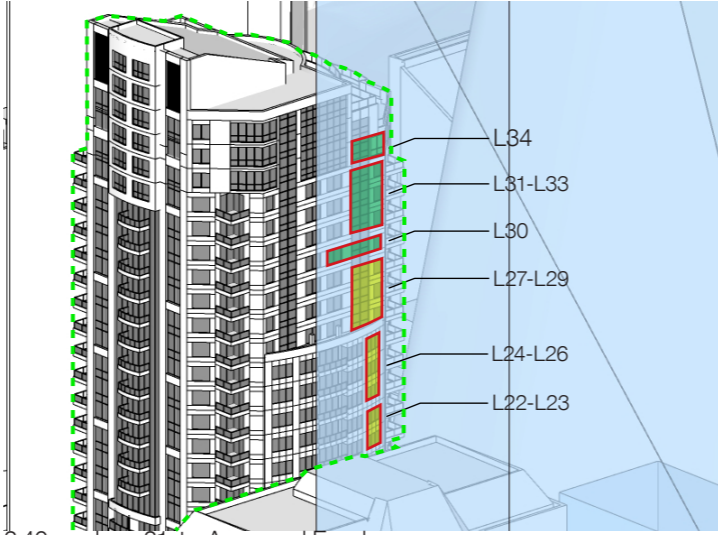
ALEXANDER APARTMENTS BUILDING

APARTMENT WHERE SOLAR ACCESS IS REDUCED  
TO LESS THAN 2 HOURS AS A RESULT OF THE SSD  
ENVELOPE

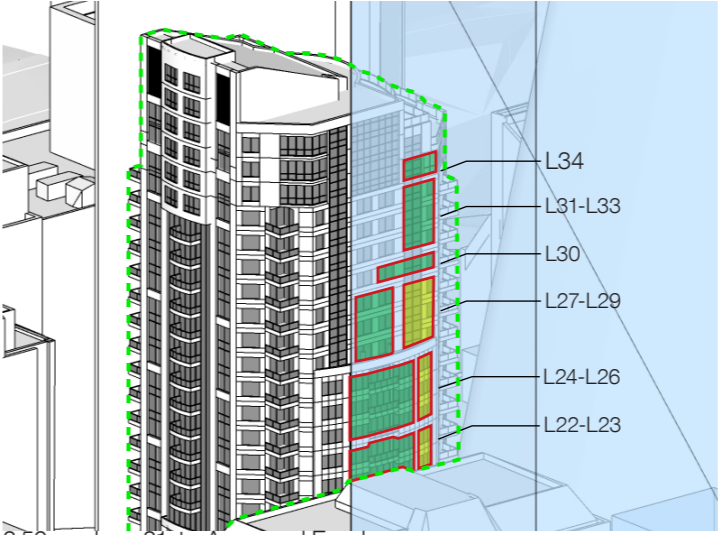
APARTMENT WHERE SOLAR ACCESS IS REDUCED BY  
THE SSD ENVELOPE BUT STILL RECEIVES MORE THAN 2  
HOURS



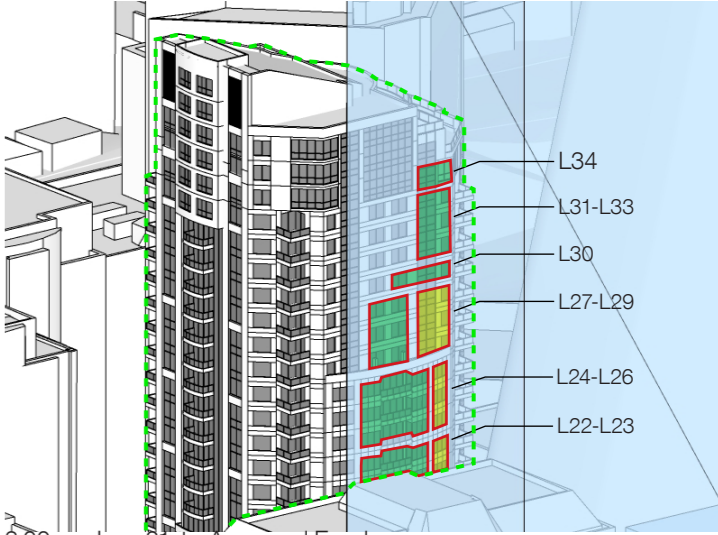
2:30pm June 21st - Approved Envelope



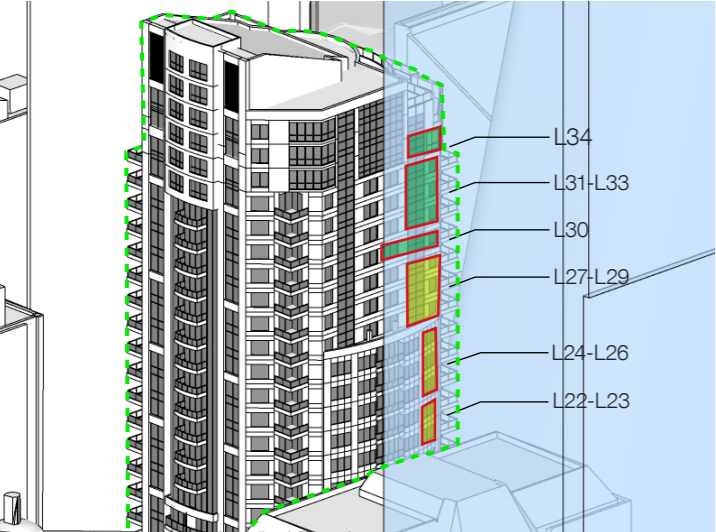
2:40pm June 21st - Approved Envelope



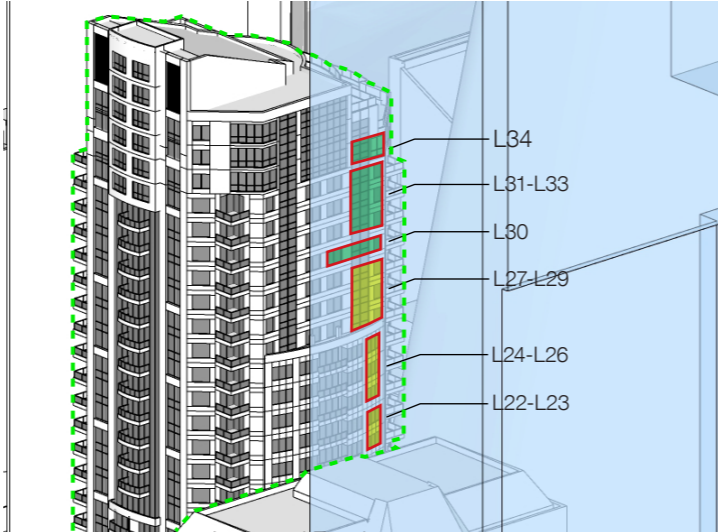
2:50pm June 21st - Approved Envelope



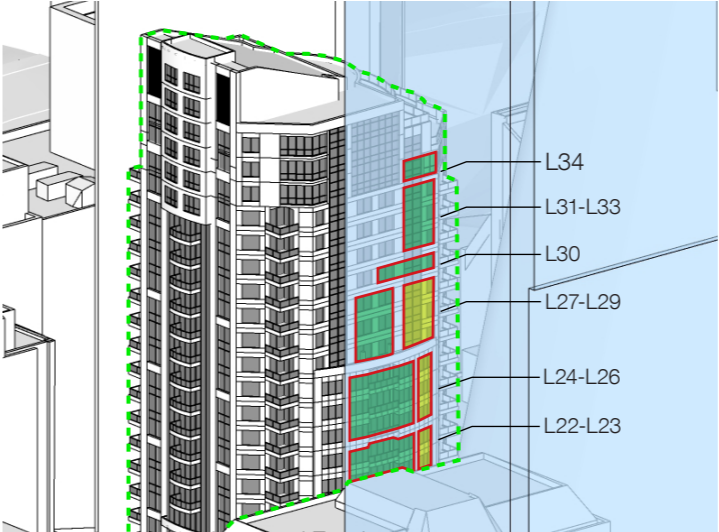
3:00pm June 21st - Approved Envelope



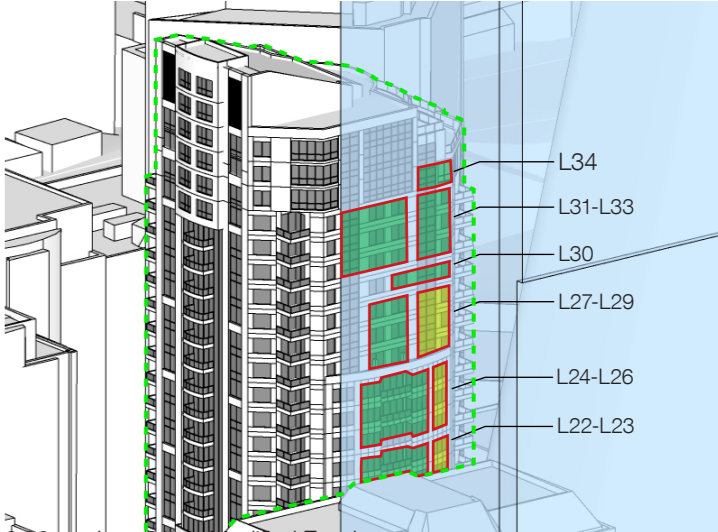
2:30pm June 21st - Modified Envelope



2:40pm June 21st - Approved Envelope



2:50pm June 21st - Approved Envelope



3:00pm June 21st - Modified Envelope

2:30PM IMPACT

At 2:30pm the modified envelope begins to reduce solar gain to the Southern apartment on L30. This still maintains more than 120 minutes of solar access. The apartment on level 30 still receives some solar and is not fully impact by the approved envelope.

2:50PM IMPACT

At 2:50pm the modified envelope begins to reduce solar gain to additional apartments on Levels 22-27. These additional apartments receive more than 120mins of solar access.

3:00PM IMPACT

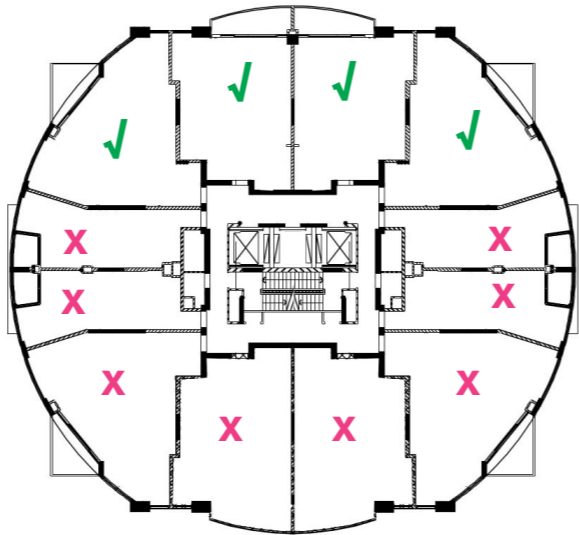
At 3:00pm the modified envelope begins to reduce solar gain to additional apartments on Levels 31-33. These additional apartments receive more than 120 minutes of solar access. The approved envelope does not impact some apartments on Levels 31-33.

# 8.6 SHADOW ANALYSIS ALEXANDER APARTMENTS

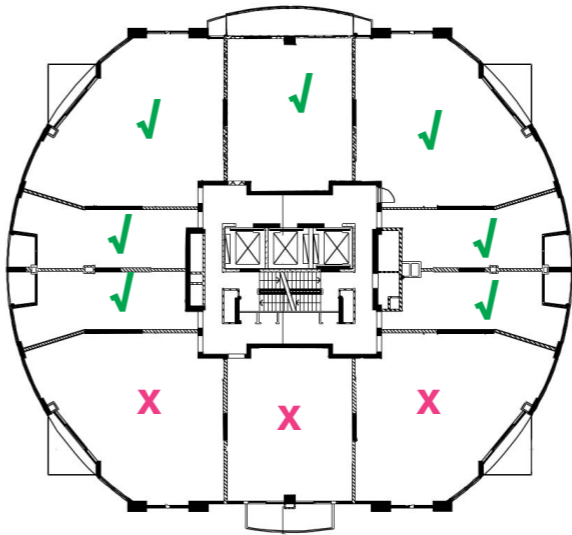
## WINTER SOLSTICE JUNE 21ST

### ALEXANDER APARTMENTS BUILDING

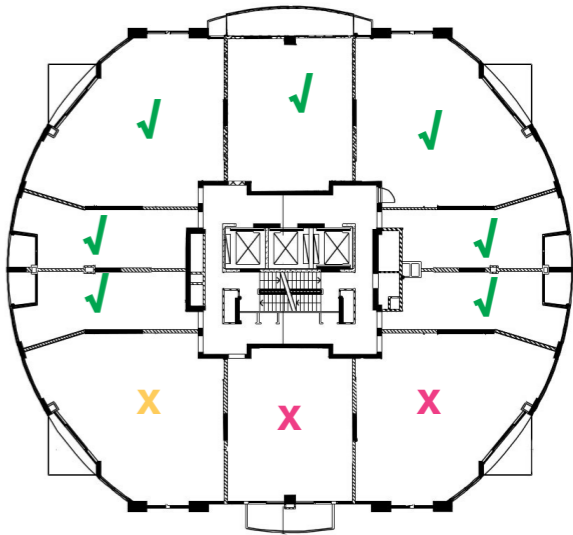
The adjacent floor plan diagrams demonstrate solar access to the Alexander Apartments when considering the impact of the modified envelope. There is no difference in Apartment numbers between the approved envelope and the modified envelope. Both envelopes reduce the total number of apartments achieving 2 hours solar access by 3% of the total number (a decrease of 8 apartments out of 145 apartments.)



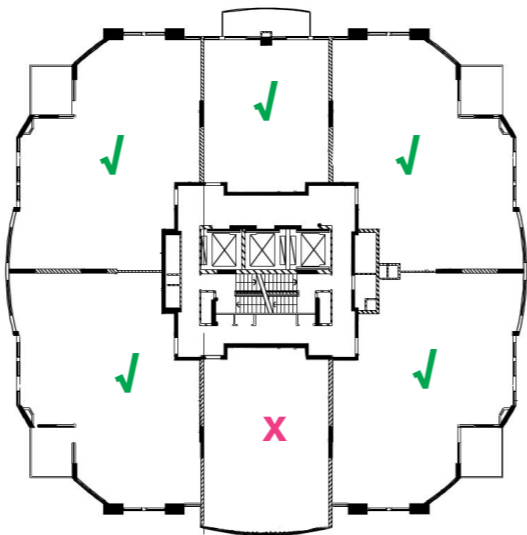
LEVELS 09 - 17



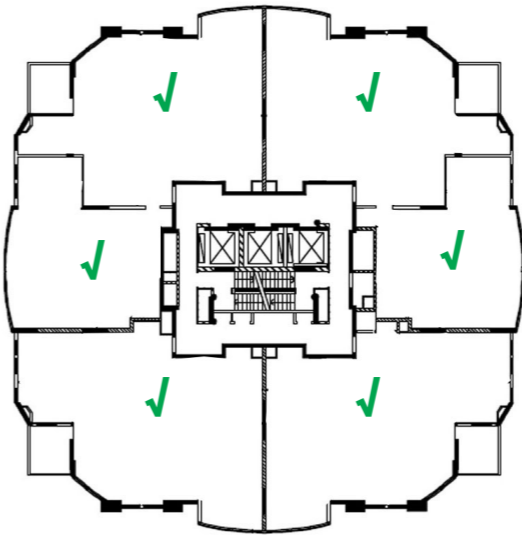
LEVELS 18 - 21



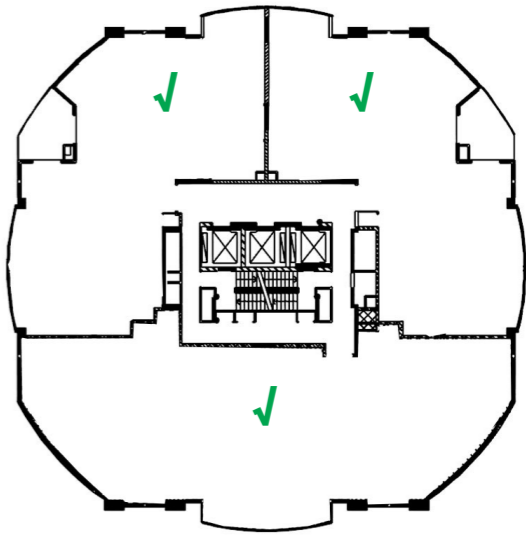
LEVELS 22- 23



LEVEL 30



LEVEL 31 - 33

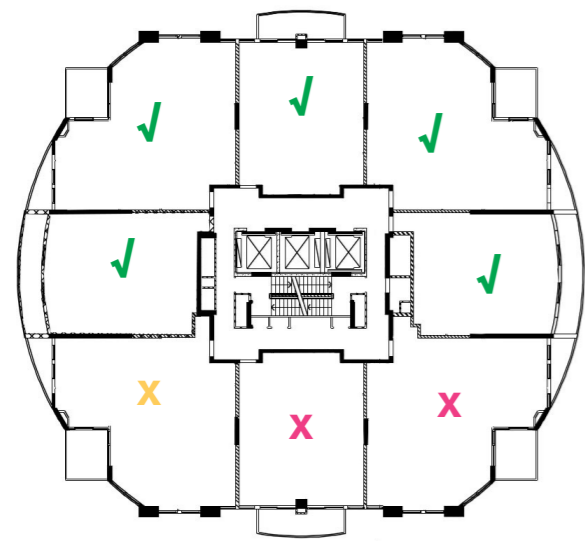


LEVEL 34

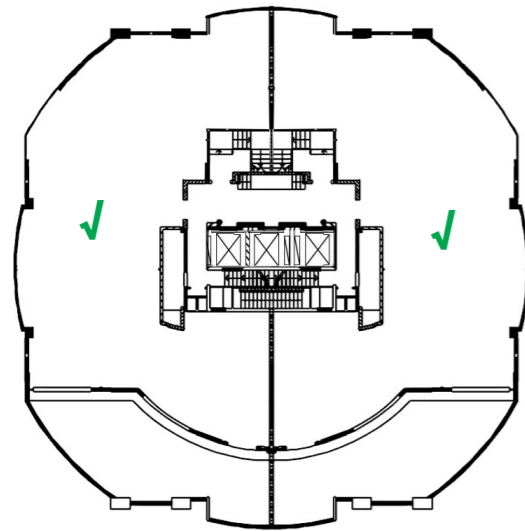


#### KEY:

- ✓ 2 HOURS SOLAR ACCESS ACHIEVED
- ✗ 2 HOURS SOLAR ACCESS CURRENTLY NOT ACHIEVED
- ✗ SOLAR ACCESS REDUCED TO LESS THAN 2 HOURS AS A RESULT OF THE MODIFIED SSD ENVELOPE



LEVELS 24 - 29



LEVELS 35 (Level 36 Not Shown - )

| RESIDENTIAL LEVEL: | NO OF APARTMENTS PER LEVEL: | NO. OF APARTMENTS CURRENTLY ACHIEVING 2HRS OF SOLAR ACCESS: | NO. OF APARTMENTS ACHIEVING 2HRS OF SOLAR ACCESS CONSIDERING THE APPROVED CONCEPT OSD ENVELOPE: | NO. OF APARTMENTS ACHIEVING 2HRS OF SOLAR ACCESS CONSIDERING THE MODIFIED OSD ENVELOPE: | VARIANCE BETWEEN THE APPROVED OSD ENVELOPE AND THE MODIFIED OSD ENVELOPE |
|--------------------|-----------------------------|---|---|---|--|
| 9                  | 12                          | 4   | 4   | 4   | 0  |
| 10                 | 12                          | 4   | 4   | 4   | 0  |
| 11                 | 12                          | 4   | 4   | 4   | 0  |
| 12                 | 12                          | 4   | 4   | 4   | 0  |
| 13                 | 12                          | 4   | 4   | 4   | 0  |
| 14                 | 12                          | 4   | 4   | 4   | 0  |
| 15                 | 12                          | 4   | 4   | 4   | 0  |
| 16                 | 12                          | 4   | 4   | 4   | 0  |
| 17                 | 12                          | 4   | 4   | 4   | 0  |
| 18                 | 10                          | 7   | 7   | 7   | 0  |
| 19                 | 10                          | 7   | 7   | 7   | 0  |
| 20                 | 10                          | 7   | 7   | 7   | 0  |
| 21                 | 10                          | 7   | 7   | 7   | 0  |
| 22                 | 10                          | 8   | 7   | 7   | 0  |
| 23                 | 10                          | 8   | 7   | 7   | 0  |
| 24                 | 8                           | 6   | 5   | 5   | 0  |
| 25                 | 8                           | 6   | 5   | 5   | 0  |
| 26                 | 8                           | 6   | 5   | 5   | 0  |
| 27                 | 8                           | 6   | 5   | 5   | 0  |
| 28                 | 8                           | 6   | 5   | 5   | 0  |
| 29                 | 8                           | 6   | 5   | 5   | 0  |
| 30                 | 6                           | 5   | 5   | 5   | 0  |
| 31                 | 6                           | 6   | 6   | 6   | 0  |
| 32                 | 6                           | 6   | 6   | 6   | 0  |
| 33                 | 6                           | 6   | 6   | 6   | 0  |
| 34                 | 3                           | 3   | 3   | 3   | 0  |
| 35                 | 2                           | 2   | 2   | 2   | 0  |
| 36                 | 1                           | 1   | 1   | 1   | 0  |
| TOTAL              | 246                         | 145   | 137   | 137   | 0  |
| PERCENTAGE         | -                           | 59%   | 56%   | 56%   | 0%   |

# 8.7

## VIEW ANALYSIS

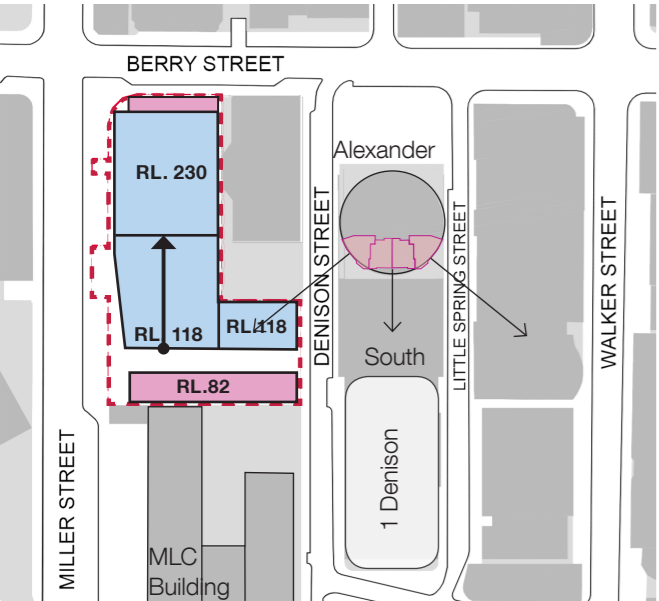
### ALEXANDER APARTMENTS

**ALEXANDER APARTMENT BUILDING VIEW ANALYSIS**

The following diagrams compare the impact of the approved OSD Concept SSD building envelope (shown in purple) with the modified building envelope (shown in blue). The diagrams compare the view impact from Alexander at RL 112.65 (Level 17) and RL 145.25 (Level 27). Both approved and modified envelopes can only be seen in the south west view. The building envelope of the 1 Denison Street development is shown in grey.

**VIEW IMPACT AT RL 112.65 (LEVEL 17)**

At RL 112.65, the approved envelope obscures the view to the MLC Building and glimpses of the harbour beyond. The approved OSD Concept SSD building envelope is setback 18m from the southern boundary up to a height of RL 118 facilitating views to the heritage MLC building but the tapered tower portion obscures some of the MLC building. The stepped vertical form of the modified building envelope improves views to the MLC and Northpoint Buildings. The modified envelope has less of an impact than the approved envelope.



Approved SSD Osd Building Envelope in relation to Alexander

View From Alexander Apartment Building at RL 112.65 - Approved SSD Concept Building Envelope



South East



South



South West

View From Alexander Building at RL 112.65 - Modified Building Envelope



South East



South



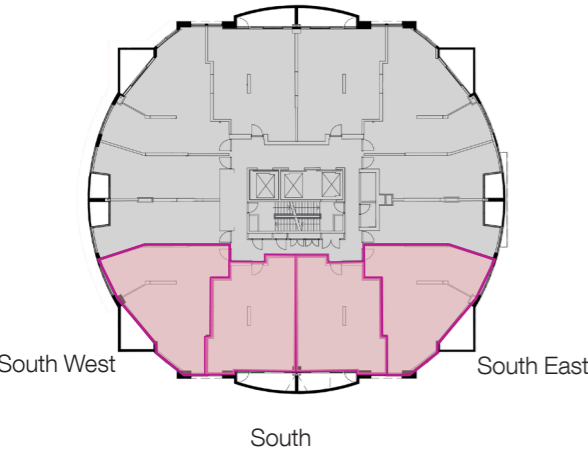
South West

VIEW IMPACT AT RL 145.25 (LEVEL 27)

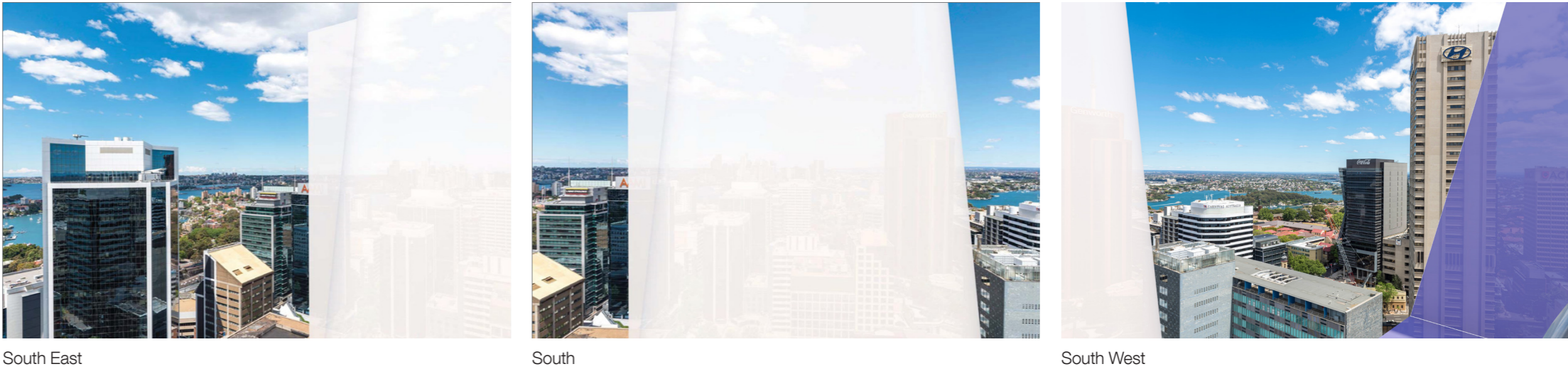
At RL 145.25, both the approved OSD Concept SSD building envelope and the modified building envelope do not obscure views to the MLC building and to the Sydney Harbour beyond.

- KEY:
- APPROVED OSD CONCEPT SSD BUILDING ENVELOPE
  - MODIFIED BUILDING ENVELOPE
  - APPROVED ONE DENISON AND 100 MOUNT STREET ENVELOPES
  - APARTMENTS ANALYSED

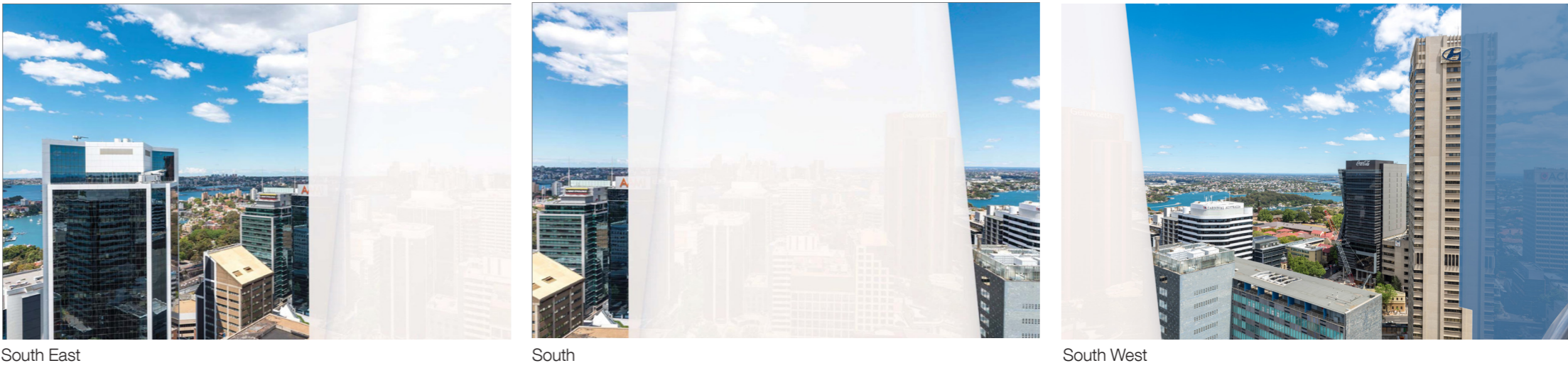
Alexander Typical Floor Plan:



View From Alexander Building at RL 145.25 - Approved SSD Concept Building Envelope



View From Alexander Building at RL 145.25.00 - Modified Building Envelope



# 8.8 SETBACK STUDIES MILLER ST

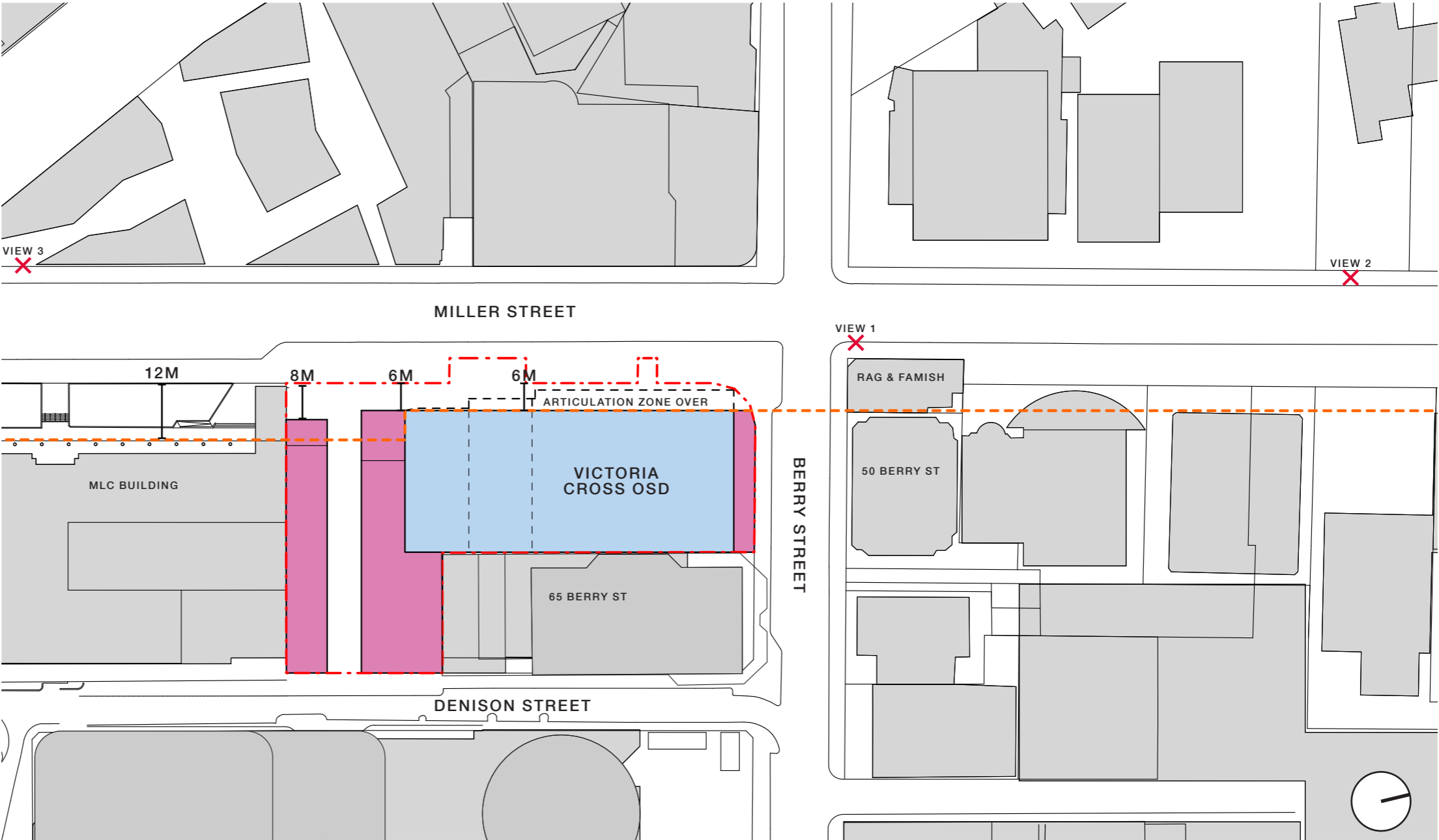
**MILLER STREET SETBACK**

The approved OSD Concept SSD envelope adopted a 6m setback from the western site boundary to Miller Street. This aligned with both the extents of the Miller Street Special Area and the predominant existing built form setback further North along Miller Street past Berry Street. The mid-century modernist MLC building further south has always provided an increased setback which is typical of modernist buildings from that era.

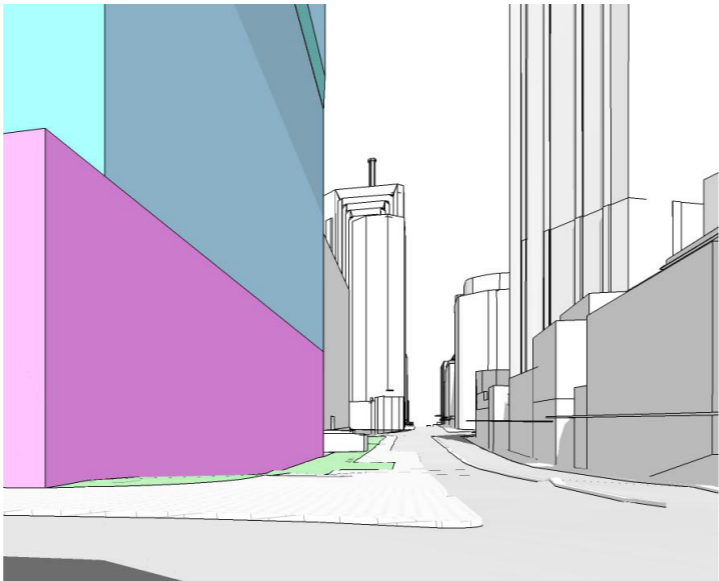
A façade articulation zone is approved between RL 118 and RL 230 to a maximum extent of 4.5m within this 6m setback zone. The modified building envelope seeks to reduce the volume of this façade articulation zone by 9500m³ from the approved OSD Concept SSD building envelope, by providing a variety of setbacks between 0m (low-rise), 3.5m (mid-rise), and 4.5m (high-rise).

The adjacent view analysis studies demonstrate a resultant reduction in visual bulk as a result of this tightening of the envelope.

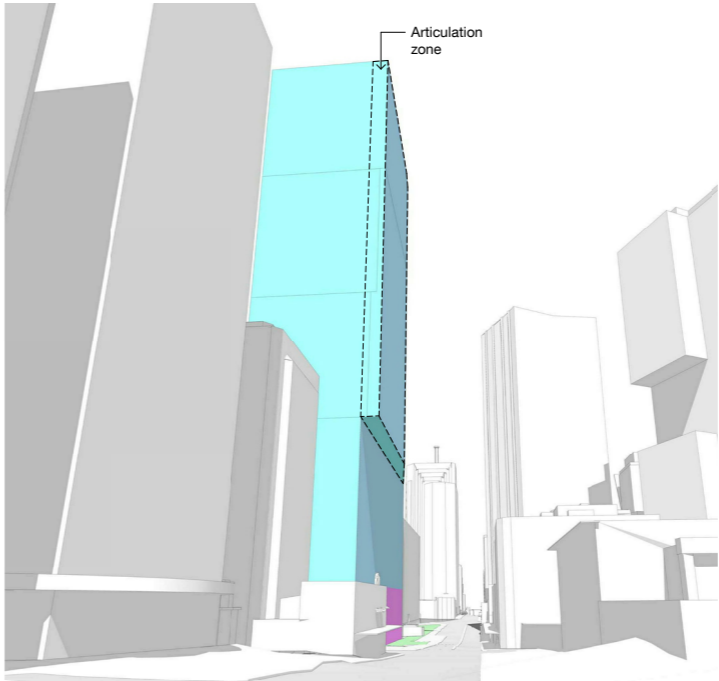
- KEY:
- OSD BUILDING ENVELOPE
  - VICTORIA CROSS STATION CSSI APPROVAL
  - EXISTING BUILDINGS ON SITE (NOW DEMOLISHED)
  - PREDOMINANT STREET WALL ALIGNMENT
  - SITE BOUNDARY
  - 0M  
I  
SETBACK FROM PROPERTY BOUNDARY



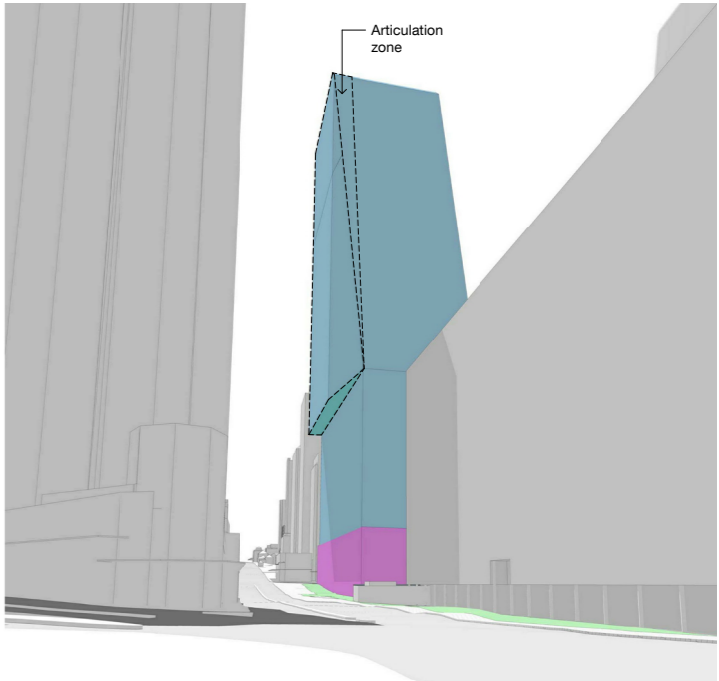
Low rise modified envelope demonstrating setbacks to neighbouring buildings along Miller St



Approved Envelope - View 1 Looking South Along Miller St

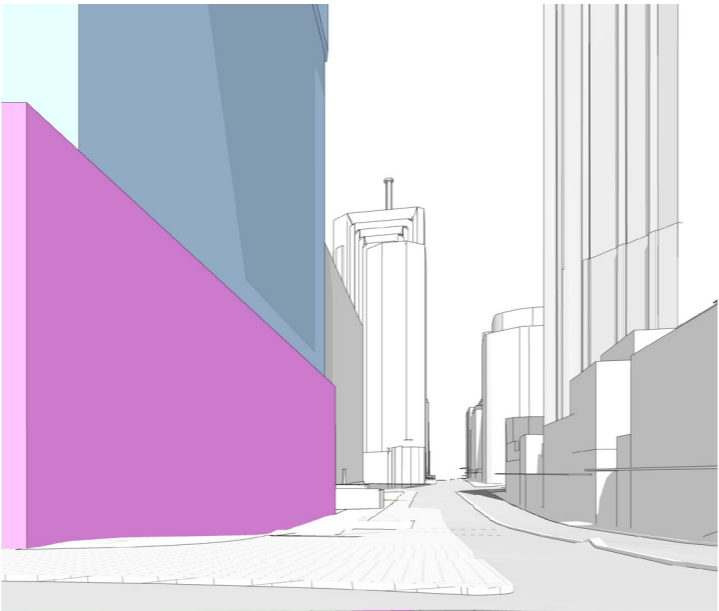


Approved Envelope - View 2 Looking South Along Miller St

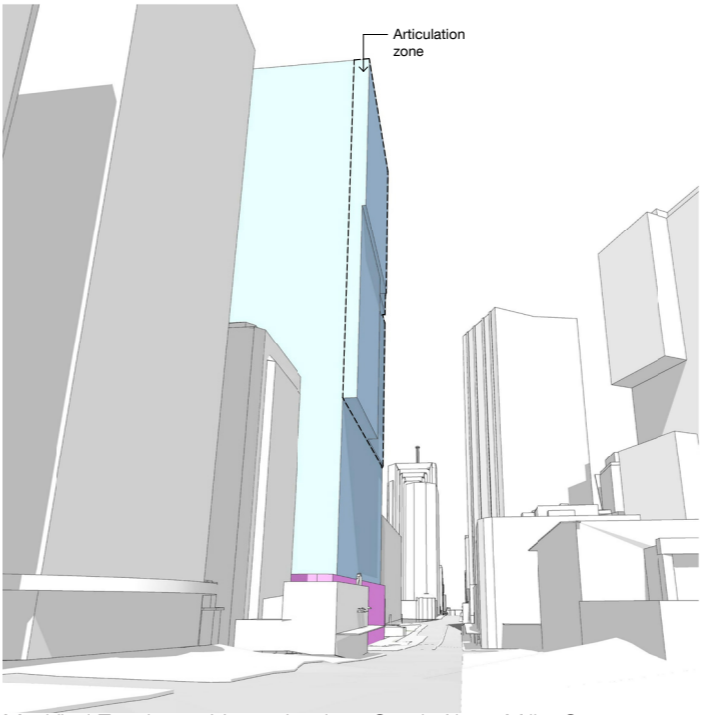


Approved Envelope - View 3 Looking North Along Miller St

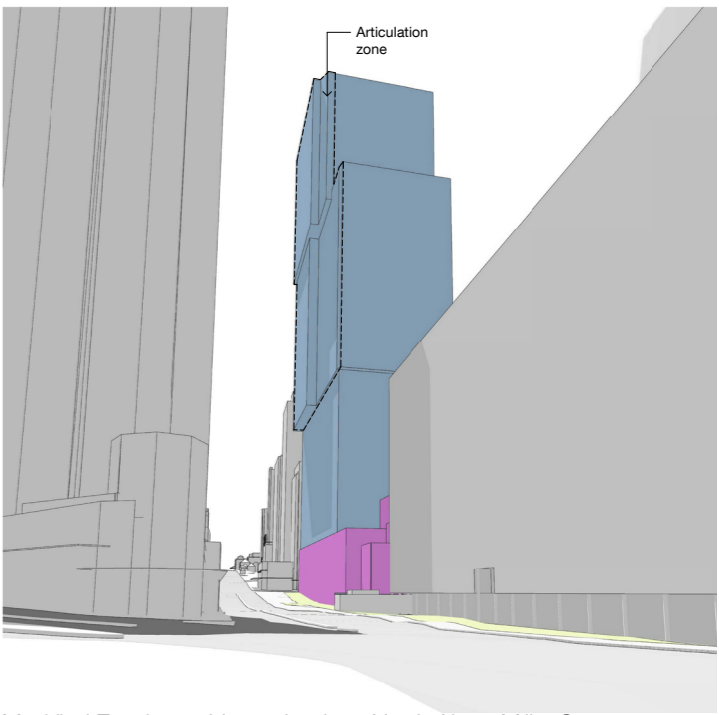
- KEY:
- OSD BUILDING ENVELOPE
  - VICTORIA CROSS STATION  
CSSI APPROVAL



Modified Envelope - View 1 Looking South Along Miller St



Modified Envelope - View 2 Looking South Along Miller St



Modified Envelope - View 3 Looking North Along Miller St

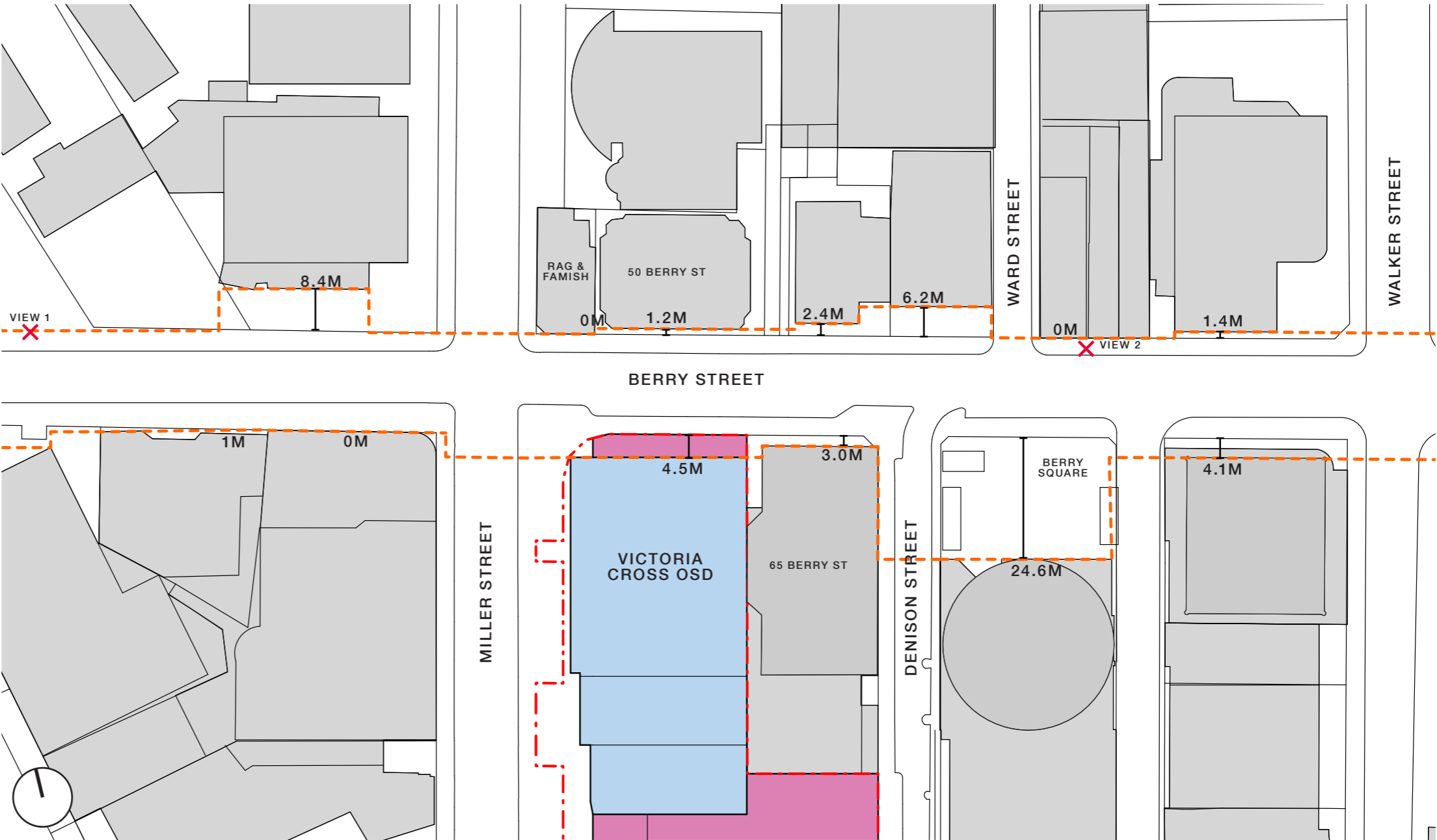
# 8.8 SETBACK STUDIES BERRY ST

### BERRY STREET SETBACK

The North Sydney DCP 2013 stipulates a setback to Berry Street of 5m from the property boundary. The adjacent analysis shows that developments along Berry Street do not adhere to the recommended setback, ranging from 24.6m to 0m setback. The setback of the modified envelope to Berry St is 4.5m. This is considered to be an appropriate setback within the streetscape.

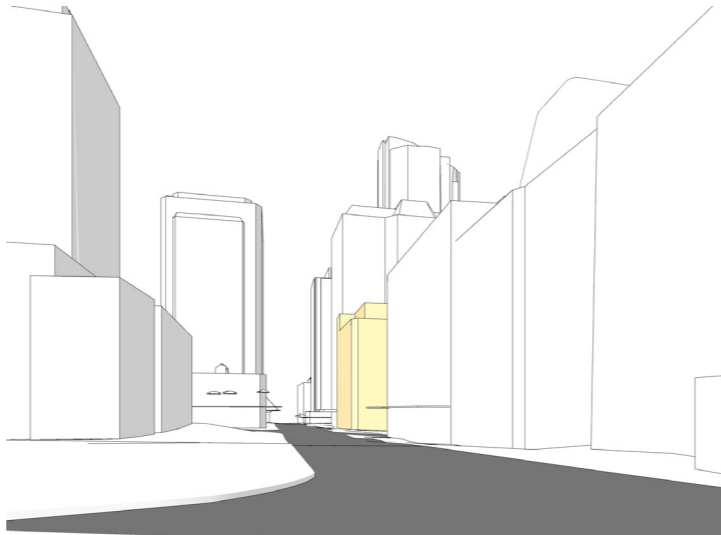
The 0.5m setback reduction from the approved OSD Concept SSD envelope was necessary in order to deliver the increase from 18m to 28m building separation to the MLC building on the Southern boundary. This setback reduction was also necessary to remove the low-rise eastern leg of the approved envelope. This adjustment creates larger high-rise tower floor plates that meet the expectations of premium grade tenants while reducing the bulk and scale when viewed from key north-south pedestrian routes such as Miller and Denison Streets.

- KEY:
- OSD BUILDING ENVELOPE
  - VICTORIA CROSS STATION CSSI APPROVAL
  - EXISTING BUILDINGS ON SITE (NOW DEMOLISHED)
  - PREDOMINANT STREET WALL ALIGNMENT
  - SITE BOUNDARY
  - 0M  
1 SETBACK FROM PROPERTY BOUNDARY

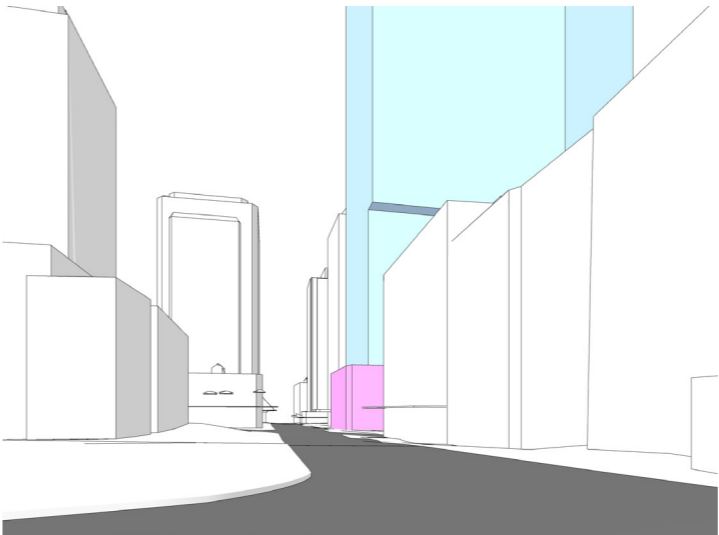


Envelope demonstrating setbacks to neighbouring buildings along Berry St

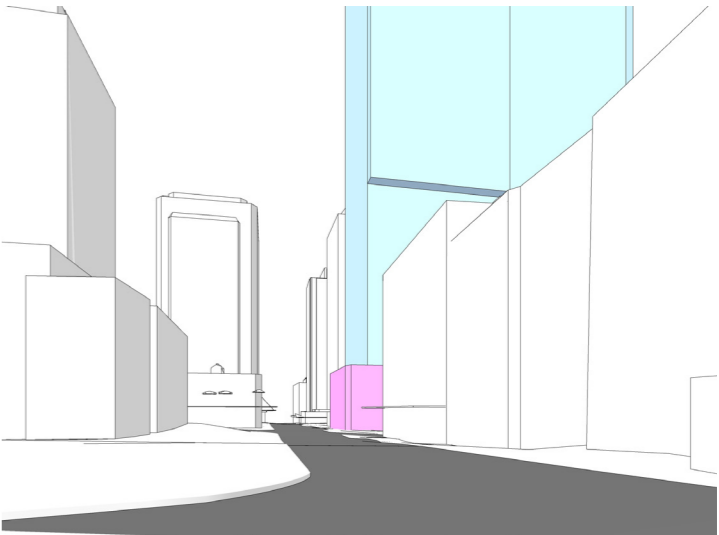
- KEY:
- OSD BUILDING ENVELOPE
  - VICTORIA CROSS STATION  
CSSI APPROVAL
  - EXISTING BUILDINGS ON SITE (NOW DEMOLISHED)



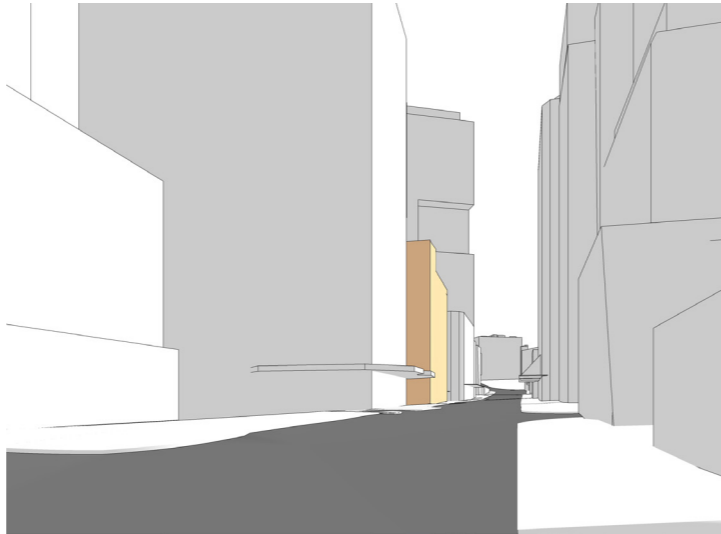
View 1 - Looking East Down Berry St - Existing Building (Now Demolished)



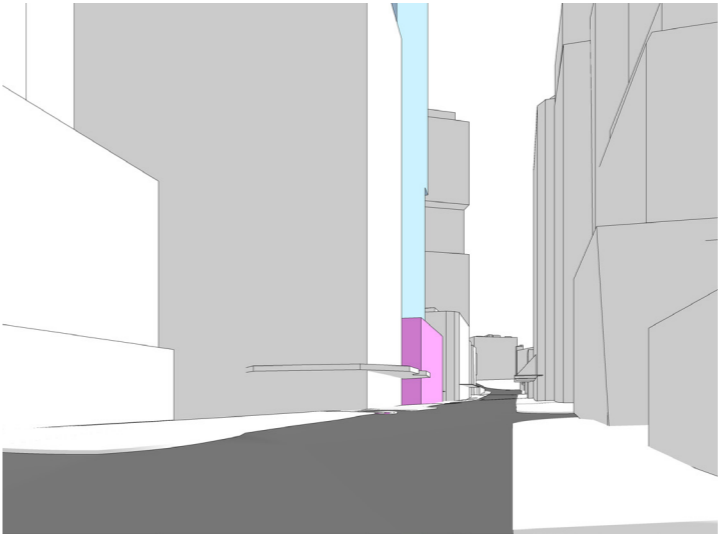
View 1 Looking East Down Berry St - Approved Envelope



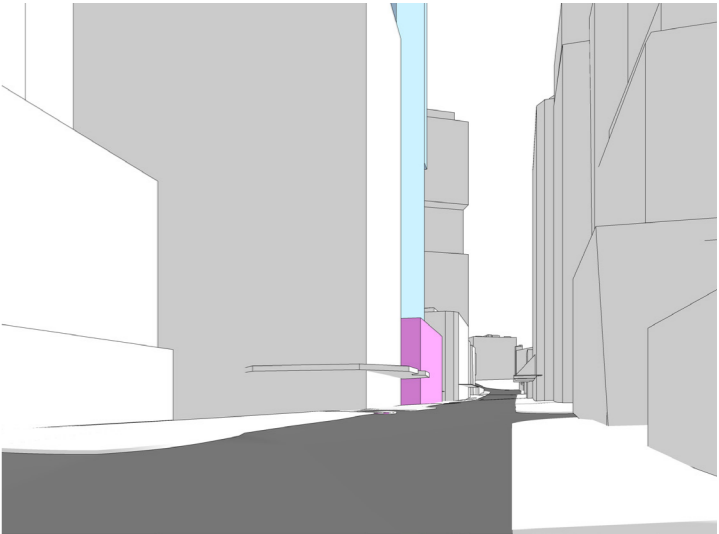
View 1 - Looking East Down Berry St - Modified Envelope



View 2 - Looking West up Berry St - Existing Building (Now Demolished)



View 2 - Looking West up Berry St - Approved Envelope



View 2 - Looking West up Berry St - Modified Envelope

# 8.8 SETBACK STUDIES DENISON ST

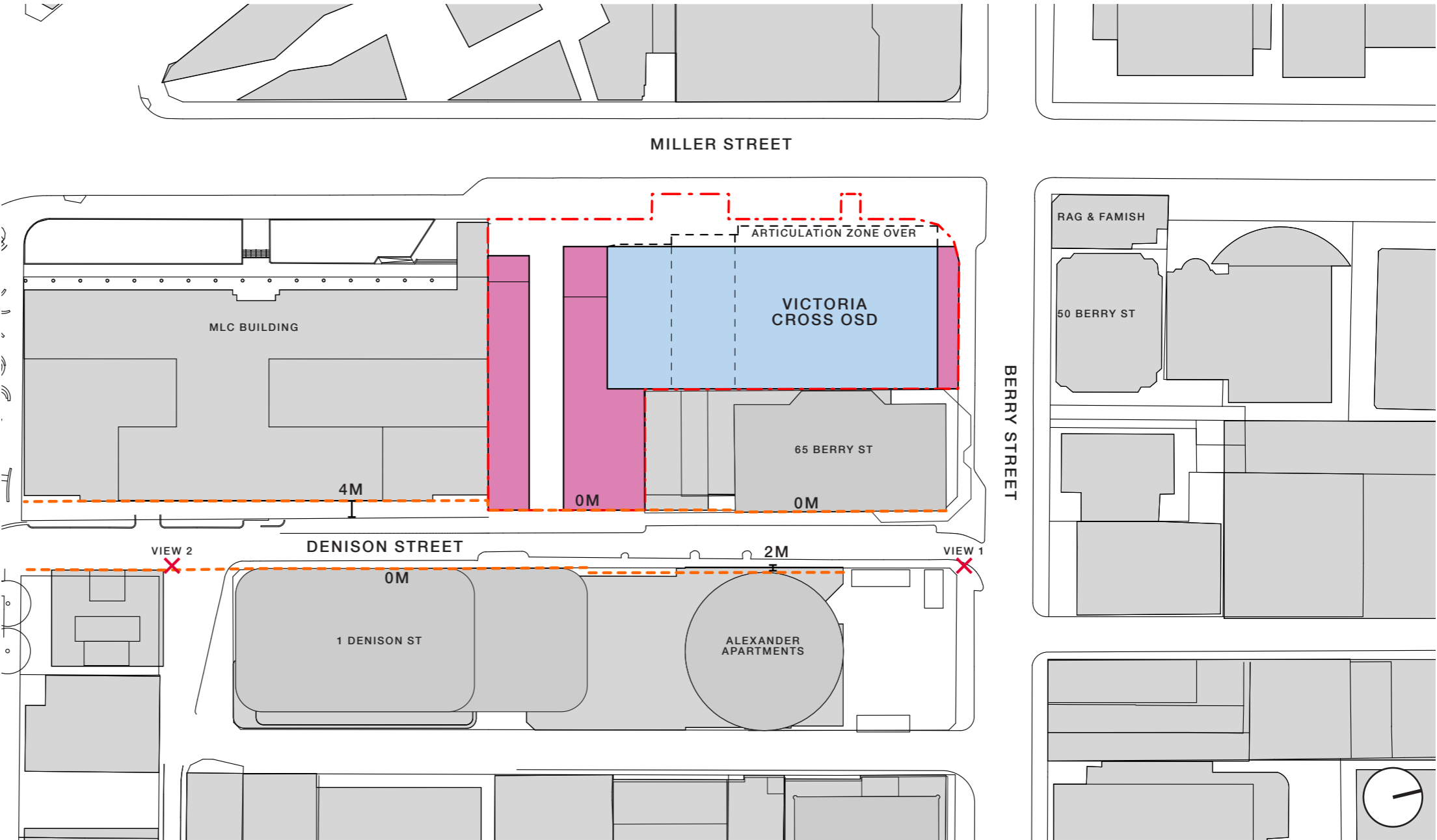
### DENISON STREET SETBACK

The North Sydney DCP 2013 stipulates a podium setback to Denison Street of 0m from the property boundary. The adjacent analysis shows that developments along Denison Street do not adhere to the recommended setback ranging from 4m to zero setback. The setback of the modified envelope to Denison St is 0m. This is considered to be an appropriate setback in the streetscape.

The modified envelope massing fronting Denison Street has been reduced from the approved envelope by a height of 29m as a result of the rationalisation of the tower floorplates. This adjustment has improved the setback from the tower volume to Denison Street. This creates greater amenity for both Denison Street and the through site laneway by increasing solar access and reducing downdraft.

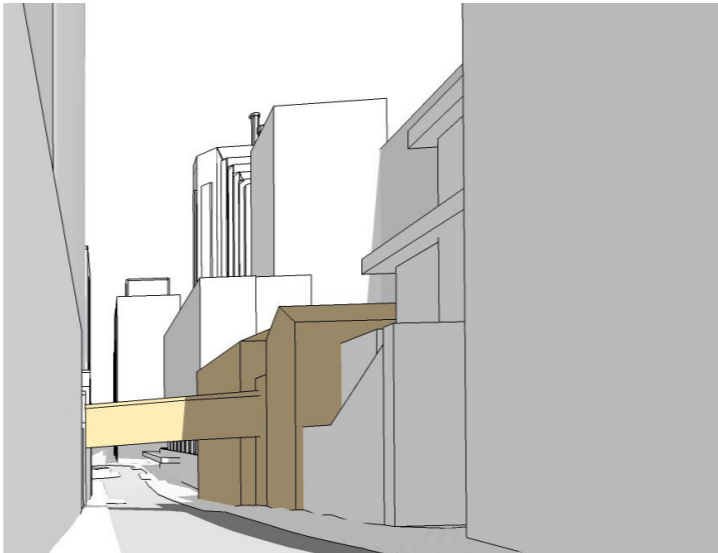
- KEY:
- OSD BUILDING ENVELOPE
- VICTORIA CROSS STATION  
CSSI APPROVAL
- EXISTING BUILDINGS ON SITE (NOW DEMOLISHED)
- PREDOMINANT STREET WALL ALIGNMENT
- SITE BOUNDARY
- 0M  
I

SETBACK FROM PROPERTY BOUNDARY



Low rise modified envelope demonstrating setbacks to neighbouring buildings along Denison St

- KEY:
- OSD BUILDING ENVELOPE
  - VICTORIA CROSS STATION  
CSSI APPROVAL
  - EXISTING BUILDINGS ON SITE (NOW DEMOLISHED)



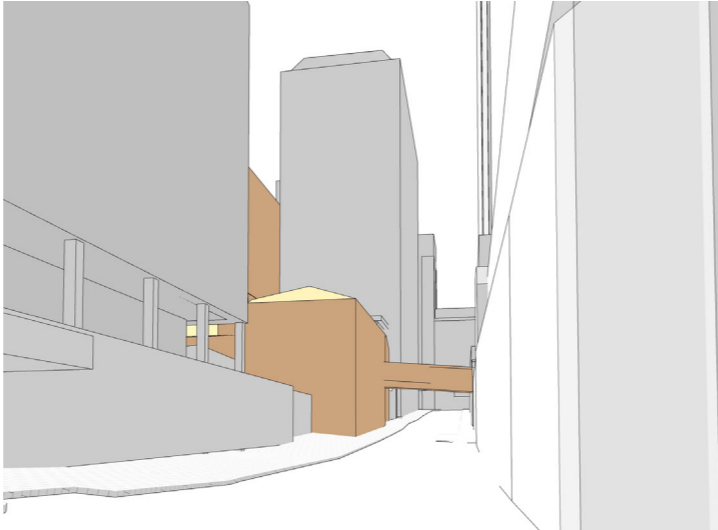
View 1 - Looking South Down Denison St - Existing Building (Now Demolished)



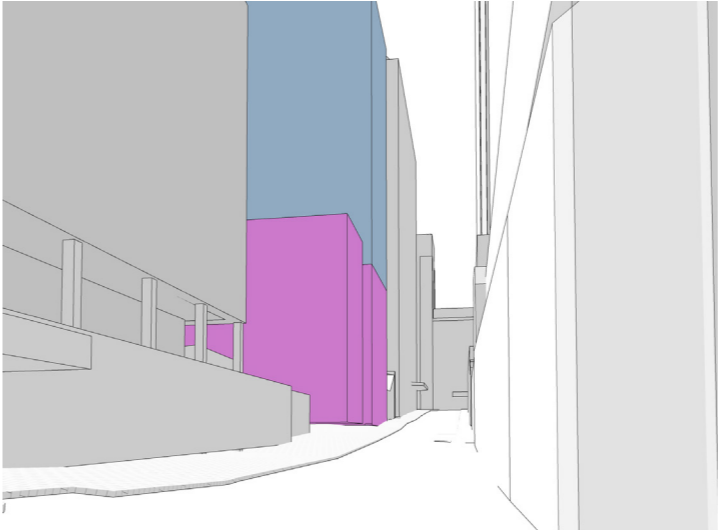
View 1 - Looking South Down Denison St - Approved Envelope



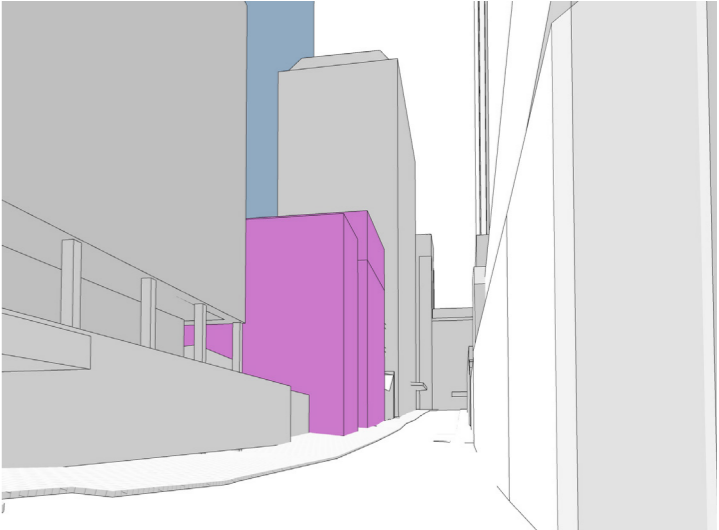
View 1 - Looking South Down Denison St - Modified Envelope



View 2 - Looking North up Denison St - Existing Building (Now Demolished)



View 2 - Looking North up Denison St - Approved Envelope



View 2 - Looking North up Denison St - Modified Envelope

# 8.9

## ENVELOPE ANALYSIS

### KEY VANTAGE POINTS & STREETSCAPE LOCATIONS

**CITY SCALE VIEW ANALYSIS**

The OSD development is envisioned to be located centrally in the North Sydney Centre Skyline so as to identify the station and OSD site as the geographical centre when viewed from the wider Sydney Metropolitan region.

The following photomontages illustrate the impact of the approved OSD Concept SSD building envelope (top) versus the modified envelope (bottom row) on the North Sydney Centre Skyline from various view points. The envelopes of 100 Mount Street and 1 Denison Street (currently under construction) are shown in white.

**View from Barangaroo**

Both the approved (purple) and modified envelope (blue) can be seen behind 101 Miller Street and to the right of Northpoint Tower and is legible as the tallest building in the collection of buildings in North Sydney Centre. There is minimal difference in building envelope outline between the approved and modified envelopes.

**View from Sydney Opera House**

Both the approved and modified envelopes can be seen to the left in front of 1 Denison Street and 100 Mount Street. There is minimal difference in building envelope outline between the approved and modified envelopes.



View from Barangaroo - Approved Envelope



View from Barangaroo - Modified Envelope



View from Gladesville Bridge - Approved Envelope



View from Gladesville Bridge - Modified Envelope

**View from Gladesville Bridge**

Both the approved and modified building envelopes can be seen to the right behind 177 Pacific Highway and is legible as the tallest building in the collection of buildings in the North Sydney Centre. There is minimal difference in building envelope outline between the approved and modified envelopes.

**View from Miller Street North**

Both the approved and modified building envelopes can be seen along the vista from the northern end of Miller Street, looking south. There is minimal difference in building envelope outline between the approved and modified envelopes.



View from Sydney Opera House - Approved Envelope



View from Sydney Opera House - Modified Envelope



View from Miller Street North - Approved Envelope



View from Miller Street North - Modified Envelope

# 8.9

## ENVELOPE ANALYSIS

### KEY VANTAGE POINTS & STREETScape LOCATIONS

**View from Blues Point Road**

The south west corner of both the approved and the modified envelopes can be seen behind 101 Miller Street and to the right of the Northpoint Tower. There is minimal difference in building envelope outline between the approved and modified envelopes.

**View from McLaren Street**

Both the approved and modified building envelopes can be seen to the left behind and above 40 Miller Street. The building envelope is clearly the tallest in this collection of buildings along Miller Street announcing the presence of the station and OSD. There is minimal difference in building envelope outline between the approved and modified envelopes.



View from Blues Point Road - Approved Envelope



View from Pacific Highway - Approved Envelope



View from Blues Point Road - Modified Envelope



View from Pacific Highway - Modified Envelope

**View from Pacific Highway**

Both the approved and the modified building envelopes can be seen to the right of 177 Pacific Highway and is legible as the tallest building in the collection of buildings in the North Sydney Centre. There is minimal difference in building envelope outline between the approved and modified envelopes.

**View from Falcon Street**

Both the approved and modified building envelopes can be seen to the right of 1 Denison Street and Northpoint Tower and is legible as the tallest building in the collection of buildings North Sydney Centre. There is minimal difference in building envelope outline between the approved and modified envelopes.



View from McLaren Street - Approved Envelope



View from McLaren Street - Modified Envelope



View from Falcon Street - Approved Envelope



View from Falcon Street - Modified Envelope

# 8.10 COMMERCIAL FLOORPLATE STUDY

### COMMERCIAL FLOORPLATE COMPARISON STUDY

The following images depicts the scale of the modified envelope (right) and the indicative proposed design (below) within the North Sydney skyline.

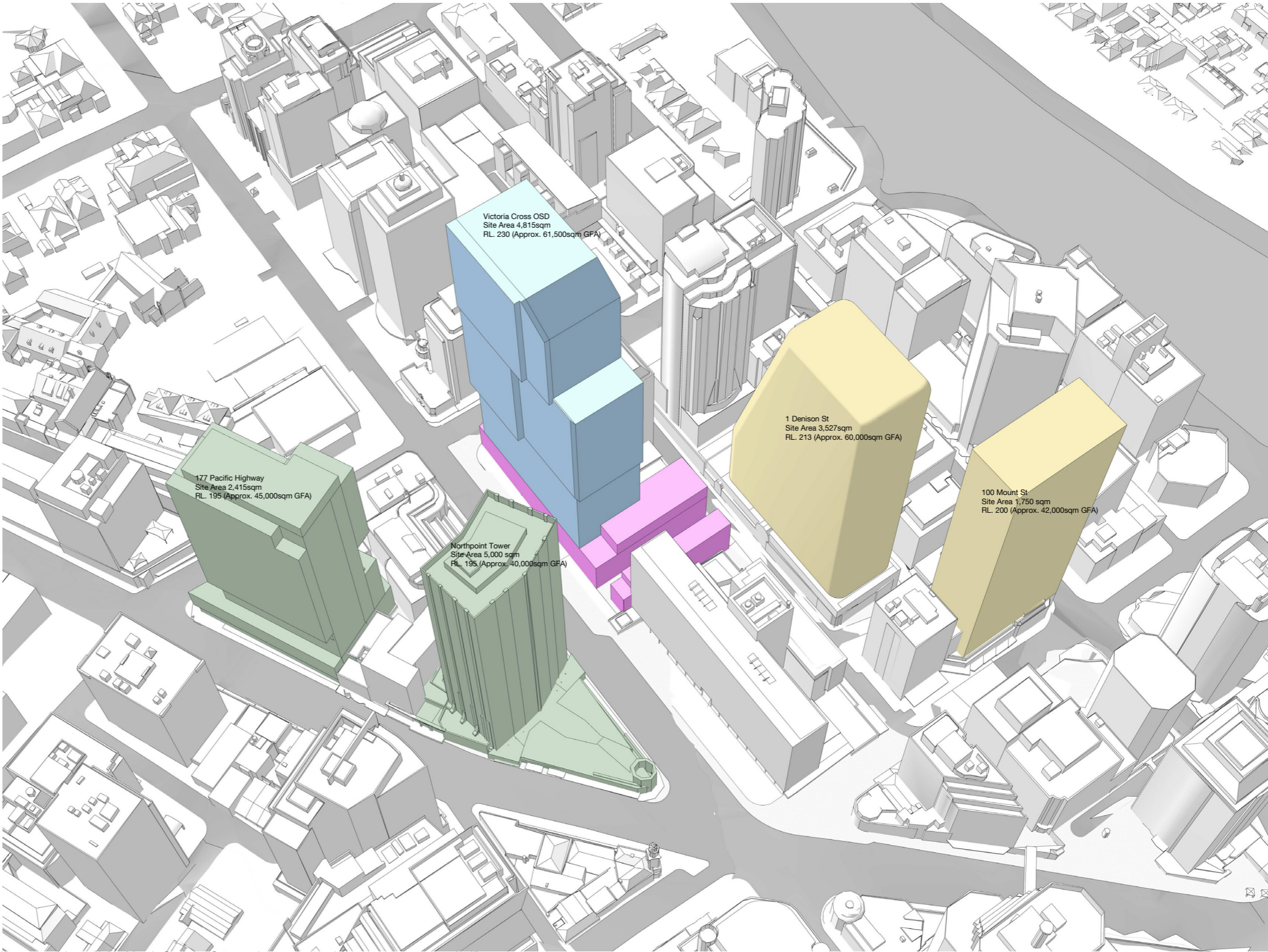
The modified envelope is comparable in scale to other commercial developments within the North Sydney centre, achieving an overall commercial GFA of 61,500sqm. From the bird eye impression below, the building sits comfortably within the skyline of North Sydney, providing a focal point for the new integrated Metro Station development.

The adjacent floorplate comparison on the following page shows the typical low-rise, mid-rise and high-rise floors of both the reference design for the approved OSD Concept SSD building envelope and the indicative design for the modified building envelope. The reference design has been rationalised to create a more efficient building that is suitable for the needs of the contemporary workplace.

Typical floor plates for neighbouring developments are also included to scale for comparison.



Artist's Impression Looking South Towards North Sydney



Isometric View of the North Sydney Centre depicting neighbouring commercial office towers