

OVER STATION DEVELOPMENT NORTH SYDNEY

DETAILED STATE SIGNIFICANT DEVELOPMENT APPLICATION

RESPONSE TO SUBMISSIONS

MARCH 2020





COMPARISON OF APPROVED AND MODIFIED ENVELOPES

The below diagrams are an extract from the architectural design statement showing the comparison in volume of articulation zone between the approved and modified envelopes.





COMPARISON OF APPROVED AND MODIFIED ENVELOPES

APPROVED ENVELOPE

Values in white indicate the distance of cantilever out from the main tower within the articulation zone.

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MODIFIED ENVELOPE

Values in white indicate the distance of cantilever out from the main tower within the articulation zone.



The above study illustrates the differences between the Approved OSD envelope and the Modified OSD Envelope.

Total Envelope Volume Reduction = Approx. 21000m³ Envelope Volume Reduction in Articulation Zone = Approx. 9500m³ Envelope Dimensional Reduction in Articulation Zone = 1.0m - 4.0m

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been prepared to illustrate this comparison in two dimensions for additional clarity.



KEY:

RESPONSE TO BELOW SUBMISSIONS:

/ THE DESIGN OF THE TOWER WITHIN THE ARTICULATION ZONE AND HOW THE SPECIFIC DESIGN CRITERIA IN THE APPROVED DESIGN GUIDELINES HAVE BEEN ADDRESSED - DPIE

/ THE APPLICATION SHOULD BE AMENDED TO COMPLY ABSOLUTELY WITH THE MILLER STREET SETBACK FOR THE ENTIRETY OF THE FACADE OF THE BUILDING WHICH FACES MILLER STREET. - NORTH SYDNEY COUNCIL



APPROVED ENVELOPE 28,950 m³ ENVELOPE IN MILLER STREET ARTICULATION ZONE

The above diagrams show the evolution of the Miller Street articulation zone and the proposed development within it.

The approved envelope contains an articulation zone of 28,950 cubic metres.



MODIFIED ENVELOPE

19,385 m³ ENVELOPE IN MILLER STREET ARTICULATION ZONE

9,565 m³ **REDUCTION** BETWEEN APPROVED AND MODIFIED ENVELOPE

The modified envelope, proposed by Lend Lease, reduces that articulation zone by 9,565 cubic metres to 19,385 cubic metres. The modified envelope articulation zone is not only smaller than the approved articulation zone, but is also wholly contained within it.

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PROPOSED DEVELOPMENT

14,875m³ PROP. DEVELOPMENT IN MILLER STREET ARTICULATION ZONE 4,510m³ **REDUCTION** BETWEEN MOD ENVELOPE AND PROP. DEVELOPMENT

The proposed development contains 14,875 cubic metres of building volume within the articulation zone. This represents approximately 77% of the modified envelope articulation zone, and 50% of the approved envelope articulation zone.

The relevant design criteria in the approved Design Guidelines (Clause 5.3, No. 3) states that: The building form within the "articulation zone" of the Miller Street frontage of the building envelope (as illustrated in Figure 5) may utilise some (not all) of the nominated zone.

The built form does not fully occupy the articulation zone it occupies only 50% of the approved envelope articulation zone and 77% of the modified envelope articulation zone.

The proposed massing located within the articulation zone achieves a very high level of articulation and has been designed to meet the Victoria Cross Design Guidelines as described in detail on the following page.

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APPROVED ENVELOPE

KEY: MILLER STREET ARTICULATION ZONE SHOWN IN COLOUR. ALL OTHER ENVELOPE AREAS INDICATED IN DASHED LINEWORK

The tower is articulated through the modulation of smaller volumes with simple proportions that come together to form a composition of positives and negatives.

The intention has been to achieve a powerful singular expression able to be read 'in the round' on the city skyline, yet upon approach revealing itself to become richer, first through a series of individually expressed volumes of 8-12 storeys in height, then through a fine grain of external shading which subtly varies depending on the orientation of each facade.

The articulation of the tower form is enhanced by expressing the positive volumes within the facade articulation zone as a series of cantilevers varying in depth from 1.5m to 4.5m.

/ THE DESIGN OF THE TOWER WITHIN THE ARTICULATION ZONE AND HOW THE SPECIFIC DESIGN CRITERIA IN THE APPROVED DESIGN GUIDELINES HAVE BEEN ADDRESSED - DPIE

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BUILDING MASSING

The proposed development has been design to meet the Victoria Cross Design Guidelines, May 2019, 5.3 Building Design, No. 3, parts a to d, as follows:

/ The proposed massing is fully in compliance with overshadowing requirements of NSLEP 2013

/ The proposed massing respects the datum and scale of the adjoining MLC building by incorporating a horizontal recessed articulation, and a variation in façade depth, aligning with the scale of the adjacent heritage building, while also faithfully acknowledging the minor gradient within the streetscape.

/ The proposed massing maintains sky view through providing varying articulation depth based on height. There is no cantilever below level 15. Between levels 16 and 29, the cantilever ranges between 0.0m to 3.0m. The maximum cantilever of 3.9m occurs above level 30. Due to the human eye perceiving objects more distant as being smaller than objects nearby, this configuration creates negligible impact on skyplane, as opposed to, say, larger cantilevers at lower levels and no cantilevers on upper levels. Sky view is also vastly improved in the proposed development as compared to the approved envelope due to the removal of 14 storeys of commercial space located above the northern side of the laneway.

/ The massing in the articulation zone is responsible for reducing downdrafts from the western tower face, causing wind paths to be broken up before they reach ground level. The Pedestrian Wind report (refer appendices and extract provided) demonstrates that wind conditions at the base of the tower in the Miller Street public domain, beneath the articulation zone, are the lowest and most comfortable in the entire precinct.



HORIZONTAL ARTICULATION

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The lower tower volume employs a recessed floor to reference the scale of the MLC building two storeys above the MLC parapet and following the natural sloping topography of Miller Street.

Further horizontal articulations are made between mid-rise and highrise floors at the point of the southern setback to clearly distinguish mid and high-rise floors and integrate the high-rise into the primary tower form.

At level 3, a further recessed floor is created to separate the tower from the podium and importantly also create a direct scale relationship between with the heritage listed two storey Rag and Famish Hotel on the opposite side of Berry Street.





Figure 17 Comfort criteria results, occurrence probability of 5%



Figure 18 Safety criteria results, occurrence probability of once per year



Extract From Wind Engineering Report Demonstrating Ground Level Pedestrian Safety And Comfort Levels

BUILT FORM AND SETBACKS CONDITION A15

/ CONDITION A15 WHICH REQUIRES THE BUILDING NOT TO EXCEED THE APPROVED BUILDING ENVELOPE. - DPIE

The adjacent diagrams show compliance of the proposed development with current condition A15:

/ All proposed built form, apart from the below exception is wholly contained within the modified envelope.

/ The only element of built form projecting beyond the modified envelope is the external sun shading (illustrated in dark blue in the following built form studies) on the north façade (projecting 490mm beyond the envelope), and external shading on low rise floors facing south, (projecting 100mm beyond the envelope.)

The modified envelope drawings reflect this exemption on both the north and south sides of the envelope.



KEY



PROPOSED DEVELOPMENT MODIFIED ENVELOPE INDIVIDUAL FINS PROJECTING BEYOND ENVELOPE



AXONOMETRIC FROM NORTH-WEST

BUILT FORM AND SETBACKS CONDITION A15

/ CONDITION A15 WHICH REQUIRES THE BUILDING NOT TO EXCEED THE APPROVED BUILDING ENVELOPE. - DPIE





/ THE PROPOSED MODIFICATIONS TO THE BUILDING ENVELOPE AND DISTRIBUTION OF MASSING IN RELATION TO THE VIEW LOSS AND AMENITY CONCERNS RAISED IN PUBLIC SUBMISSIONS - DPIE

The approved building envelope has a zero metre setback to the eastern boundary and a 5m setback to the northern boundary (Berry Street).

While the proposed modification to the building envelope reduces the approved setback from the northern boundary (Berry Street) from 5m to 4.5m plus shading structures, the proposed detailed development provides an additional 3m setback to the eastern boundary in the north eastern corner of the site. The inclusion of this setback to the eastern boundary creates an additional view corridor from the Alexander Apartments to the north west, compared to the approved building envelope.

As illustrated in the adjacent plan, the reduction of the northern setback by 0.5m and the inclusion of additional shading elements outside of the building envelope maintains an additional view corridor to the Alexandria Apartments compared to the approved building envelope. Further, the additional 3m setback to the eastern boundary improves solar access and general outlook from the Alexandria Apartments compared to the approved building envelope, notwithstanding the proposed changes to the approved building envelope, as evidenced in the view impact studies and shadow analysis included within this response.





SITE PLAN - PROPOSED DEVELOPMENT VIEW FROM NORTH WESTERN ALEXANDER APARTMENTS

/ THE PROPOSED MODIFICATIONS TO THE BUILDING ENVELOPE AND DISTRIBUTION OF MASSING IN RELATION TO THE VIEW LOSS AND AMENITY CONCERNS RAISED IN PUBLIC SUBMISSIONS - DPIE

This page shows the increase in view outlook to the north west achieved from the balcony of west facing apartment #1 of Alexander Apartments.



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VIEW FROM WESTERN ALEXANDER APARTMENTS

/ THE PROPOSED MODIFICATIONS TO THE BUILDING ENVELOPE AND DISTRIBUTION OF MASSING IN RELATION TO THE VIEW LOSS AND AMENITY CONCERNS RAISED IN PUBLIC SUBMISSIONS - DPIE

This page shows the increase in view outlook to the north west achieved from the balcony of west facing apartment #2 of Alexander Apartments.

In conclusion, views towards the north west from all west and north-west facing apartments in Alexander Apartments are improved under the proposed SSDA development than that permissible under the approved envelope.



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SITE PLAN - PROPOSED DEVELOPMENT VIEW FROM SOUTH WESTERN ALEXANDER APARTMENTS

BUILT FORM AND SETBACKS VIEW ANALYSIS THE MILLER

/ MAJOR VIEW LOSSES TO ALL NEW APARTMENTS WITHIN 221 MILLER STREET "THE MILLER" HAS NOT BEEN CONSIDERED AND NEEDS TO BE INDIVIDUALLY ADDRESSED. - 'PUBLIC'

This page shows the view outlook to the south achieved from the east and west balconies of The Miller Apartments In conclusion the proposed development maintains and improves the view corridor from The Miller Appartments compared to the approved envelope.







BUILT FORM AND SETBACKS VIEW ANALYSIS THE MILLER

/ MAJOR VIEW LOSSES TO ALL NEW APARTMENTS WITHIN 221 MILLER STREET "THE MILLER" HAS NOT BEEN CONSIDERED AND NEEDS TO BE INDIVIDUALLY ADDRESSED. - 'PUBLIC'



VIEW FROM SOUTH WESTERN 'THE MILLER' APARTMENTS

This page shows the increase in view outlook to the south west achieved from the balcony of west facing apartment of 'The Miller' Apartments.

In conclusion the proposed development maintains and improves the general south west outlook view corridor from The Miller Appartments compared to the approved envelope.

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APPROVED ENVELOPE	<u> </u>						ς.
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BUILT FORM AND SETBACKS VIEW ANALYSIS THE MILLER

/ MAJOR VIEW LOSSES TO ALL NEW APARTMENTS WITHIN 221 MILLER STREET "THE MILLER" HAS NOT BEEN CONSIDERED AND NEEDS TO BE INDIVIDUALLY ADDRESSED. - 'PUBLIC'



This page shows the increase in view outlook to the south west achieved from the balcony of east facing apartments of The Miller Apartments.

In conclusion the proposed development achieves an additional 3m setback to the eastern boundary and improves solar access and general outlook from The Miller Appartments compared to the approved building envelope.



/ THE PROPOSED MODIFICATIONS TO THE BUILDING ENVELOPE AND DISTRIBUTION OF MASSING IN RELATION TO THE VIEW LOSS AND AMENITY CONCERNS RAISED IN PUBLIC SUBMISSIONS - DPIE

VIEW IMPACT AT RL 174.05 (LEVEL 37)

At RL 174.05, the proposed SSDA building does not obscure either views to the MLC building or to Sydney Harbour



ALEXANDER TYPICAL FLOOR PLAN:



View From Alexander Building at RL 174.05 - Modified Envelope over the Proposed SSDA Building



View From Alexander Building at RL 174.05 - Proposed Building Envelope and SSDA Building

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north west



north west

BUILT FORM AND SETBACKS VIEW ANALYSIS THE MILLER APARTMENTS

/ MAJOR VIEW LOSSES TO ALL NEW APARTMENTS WITHIN 221 MILLER STREET "THE MILLER" HAS NOT BEEN CONSIDERED AND NEEDS TO BE INDIVIDUALLY ADDRESSED. - 'PUBLIC'



Location plan 221 Miller Street

Study undertaken from Level 21, Living room window, southern view



Approved Victoria Cross OSD Building Envelope

Proposed Victoria Cross OSD Concept Plan Modification Building Envelope

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Proposed Victoria Cross OSD SSDA indicative building design



10.6 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 the overshadow impact of the proposed SSDA building. The modified envelope has been provided for comparison. As indicated the SSDA building begins to impact the Alexander Apartment Building on the Winter Solstice (June 21st) at 2.00pm when it begins to cast a shadow on the western facade. The impacts are discussed further in the following section.



2pm June 21st - Modified Envelope







.30pm June 21st - Proposed SSDA Building





VICTORIA CROSS STATION CSSI APPROVAL (TOP ROW)

- PROPOSED SSDA BUILDING (BOTTOM ROW)
- ALEXANDER APARTMENT BUILDING
 - EXISTING SHADOW

SHADOW CAST BY THE MODIFIED ENVELOPE / SSDA BUILDING

SHADOW CAST ON ALEXANDER APARTMENTS BY MODIFIED ENVELOPE / SSDA BUILDING

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pm June 21st - Modified Envelope



Ipm June 21st - Proposed SSDA Building

2pm June 21st - Proposed SSDA Building





1.30pm June 21st - Modified Envelope







3.0pm June 21st - Modified Envelope

2.30pm June 21st - Proposed SSDA Building

- SHADOW CAST ON ALEXANDER APARTMENTS BY MODIFIED ENVELOPE / SSDA BUILDING
- SHADOW CAST BY THE MODIFIED ENVELOPE / SSDA BUILDING
- EXISTING SHADOW
- ALEXANDER APARTMENT BUILDING
- PROPOSED SSDA BUILDING (BOTTOM ROW)
- VICTORIA CROSS STATION CSSI APPROVAL (TOP ROW)
- MODIFIED ENVELOPE (TOP ROW)
- KEY:



3pm June 21st - Modified Envelope



3pm June 21st - Proposed SSDA Building

10.6 **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 following diagrams demonstrate the overshadow impact of the proposed SŠDA building (bottom row). The modified envelope has been provided for comparison (top row).

The SSDA building does not begin to impact Alexander Apartments until 2:20pm. There is minimal difference between the two conditions with the proposed SSDA building lagging 5 -10mins behind the modified envelope in terms of solar impact. This will be discussed in more detail in the following section.



KEY:





PROPOSED SSDA BUILDING (BOTTOM ROW)

н. ALEXANDER APARTMENTS BUILDING

SHADOW CAST ON ALEXANDER APARTMENTS BUILDING BY THE MODIFIED ENVELOPE / PROPOSED SSDA BUILDING

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2:40pm June 21st - Proposed SSDA Building

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- 10 M A ALEXANDER APARTMENTS BUILDING $\mathbf{x} = \mathbf{x}$
- PROPOSED SSDA BUILDING (BOTTOM ROW)



MODIFIED ENVELOPE (TOP ROW)

KEY:

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10.6 **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 following diagrams demonstrate the overshadow impact of the proposed SSDA building (bottom row). The modified envelope has been provided for comparison (top row).

On the 21st of June, both the modified envelope and the SSDA Building begin to overshadow the Alexander Apartments Building. This study should be read in conjunction with the floor plan diagrams and table provided in the following section.

Both the modified envelope and the SSDA building reduce the total number of apartments achieving 2 hours solar access by 3% of the total number of apartments.



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. The proposed SSDA Building does not impact the Apartments at this time.



- MODIFIED ENVELOPE (TOP ROW)
- VICTORIA CROSS STATION CSSI APPROVAL (TOP ROW)
- PROPOSED SSDA BUILDING (BOTTOM ROW)
- **.** . . ALEXANDER APARTMENTS BUILDING
- APARTMENT WHERE SOLAR ACCESS IS REDUCED TO LESS THAN 2 HOURS AS A RESULT OF THE MODIFIED ENVELOPE OR SSDA BUILDING
- APARTMENT WHERE SOLAR ACCESS IS REDUCED BY THE MODIFIED ENVELOPE OR THE SSDA BUILDING BUT STILL RECEIVES MORE THAN 2 HOURS

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). The proposed SSDA building has less of an impact achieving 110mins of solar gain to those apartments achieving only 100mins under the 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.

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At 2:50pm the modified envelope begins to reduce solar gain to additional apartments on Levels 22-27. These additional apartments

apartments on levels 22-27 affected by the modified envelope still

achieve some solar access under the SSDA Building at this time.

receive more than 120 minutes of solar access. The additional



3pm June 21st - Proposed SSDA Building

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 SSDA Building envelope does not impact the additional apartments on Levels 31-33.

10.7 **VIEW ANALYSIS**

ALEXANDER APARTMENT BUILDING VIEW ANALYSIS

The following diagrams illustrate the impact of the modified envelope and SSDA building on private views from Alexander Apartments. The diagrams compare the view impact from Alexander at RL 112.65 (Level 17), RL 116.25 (Level 20) and RL 145.25 (Level 27) and RL 174.05 (Roof). The proposed OSD tower is only visible in the south west, west and north west view. The building envelope of the 1 Denison Street development is shown in light grey.

VIEW IMPACT AT RL 112.65 (LEVEL 17)

At RL 112.65, the proposed SSDA building does not obscure views to the MLC Building and the harbour beyond. The proposed SSDA building is setback 28m from the southern boundary facilitating views to the heritage MLC building.



View From Alexander Apartment Building at RL 112.65 - Modified Envelope over the Proposed SSDA Building

south east

south

View From Alexander Apartment Building at RL 112.65 - Proposed SSDA Building





south



BERRY STREET Alexander Apartments RL. 230 STREE R VALKER RL. 182.3 V RL. 89 Ш South RL.82 MILLER STREET Der -MLC



Building





south west

south west

View From Alexander Building at RL 116.25 - Modified Envelope over the Proposed SSDA Building



south east

south

View From Alexander Building at RL 116.25 - Proposed SSDA Building





south





 ONE DENISON AND 100 MOUNT STREET (UNDER CONSTRUCTION)
PROPOSED ENVELOPE
APARTMENTS ANALYSED

Alexander Typical Floor Plan:



south



south west



south west

10.7 VIEW ANALYSIS Alexander Apartments

ALEXANDER APARTMENT BUILDING VIEW ANALYSIS

The following diagrams illustrate the impact of the proposed SSDA Building on private views from Alexander Apartments. The diagrams compare the view impact from Alexander at RL 112.65 (Level 17), RL 116.25 (Level 20) and RL 145.25 (Level 27) and RL 174.05 (Roof). The proposed SSDA tower is only visible in the south west, west and north west view. The building envelope of the 1 Denison Street development is shown in light grey. View From Alexander Building at RL 145.25 - Modified Envelope over the Proposed SSDA Building



south east

south



Proposed Building Envelope in relation to Alexander Apartments









south





south west



south west