

**188-202 SWAN STREET, CREMORNE
ENVIRONMENTAL WIND ASSESSMENT**

MEL CONSULTANTS REPORT NO: 25087A-DE-EWA01

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0	9 September 2025	Initial issue
1	1 April 2026	Updated drawings

DISTRIBUTION

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1. INTRODUCTION

The proposed development at 188-202 Swan Street, Cremorne, will be a 14 storey apartment building with ground floor retail tenancies, on an “L” shaped site fronting Swan Street to the north, Railway Place to the south, and partial Royal Place to the east, as shown in Figure 1.

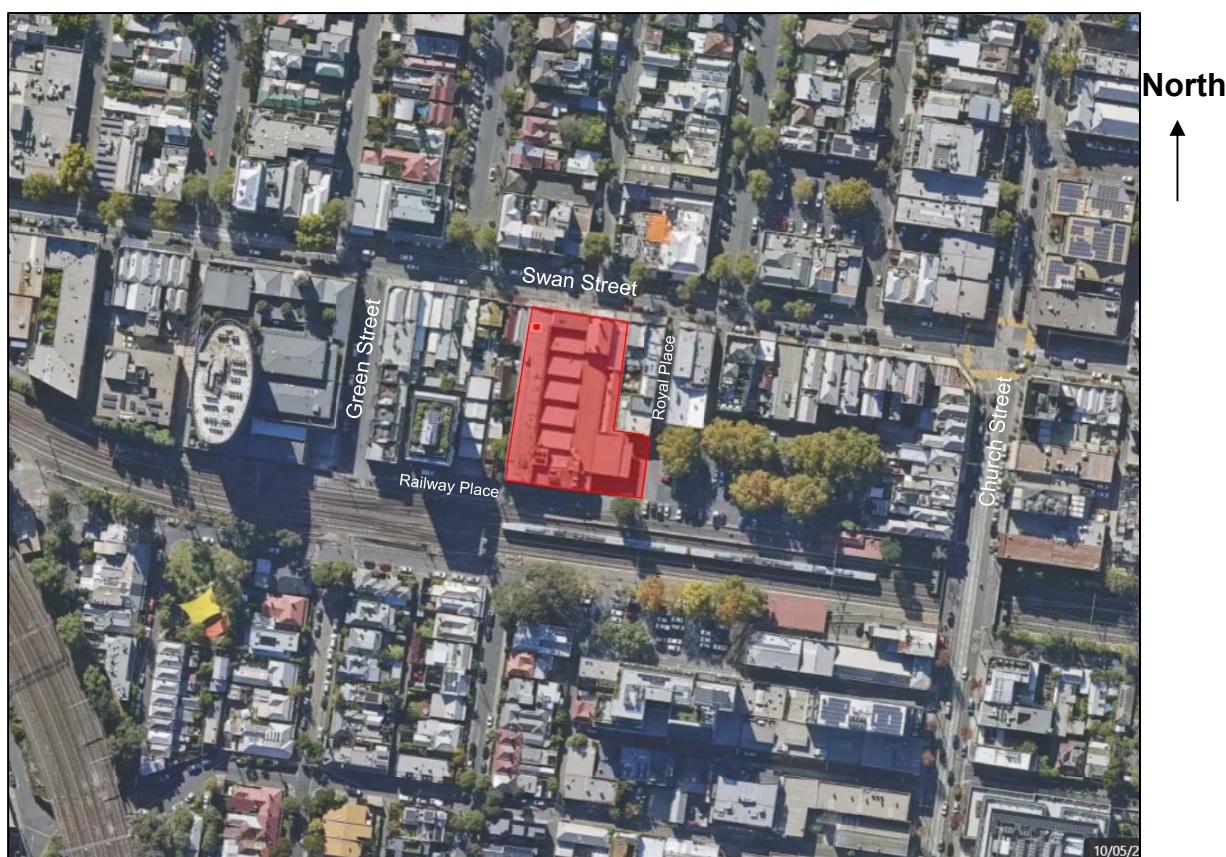


Figure 1: Location of the proposed 188-202 Swan Street Development (highlighted in red) [MetroMap].

This assessment was commissioned by I & D Group Pty Ltd, on behalf of 188 Swan Street Holdings Pty Ltd, and is based on a review of schematic design drawings prepared by Cox Architecture (received variously to 31 March 2026) that are listed in Appendix A. This assessment only considered current existing surrounds and under construction buildings (i.e. no proposed future buildings). This desktop environmental wind assessment is based on MEL Consultants knowledge of wind flow around buildings and structures from undertaking numerous wind tunnel model studies, no specific wind tunnel study has been undertaken for this assessment.

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2. THE DEVELOPMENT

The development at 188-202 Swan Street, Cremorne, will be a 14 storey residential building (~50m high) with ground level retail/commercial tenancies.

On the ground floor (refer to Figure 2), there will be a north-south thoroughfare that connects Swan Street to Railway Place, although there are gates indicated at either end that may restrict pedestrian access. The northern section of the thoroughfare is open to the sky, while the southern section will be covered by upper levels of the development. The entrance to the residential lobby will be located in the southern section of the north-south thoroughfare while the entrances to the retail/commercial tenancies will be located either on Swan Street, the north-south thoroughfare, or Railway Place. There are canopies along front of the Swan Street retail tenancies.

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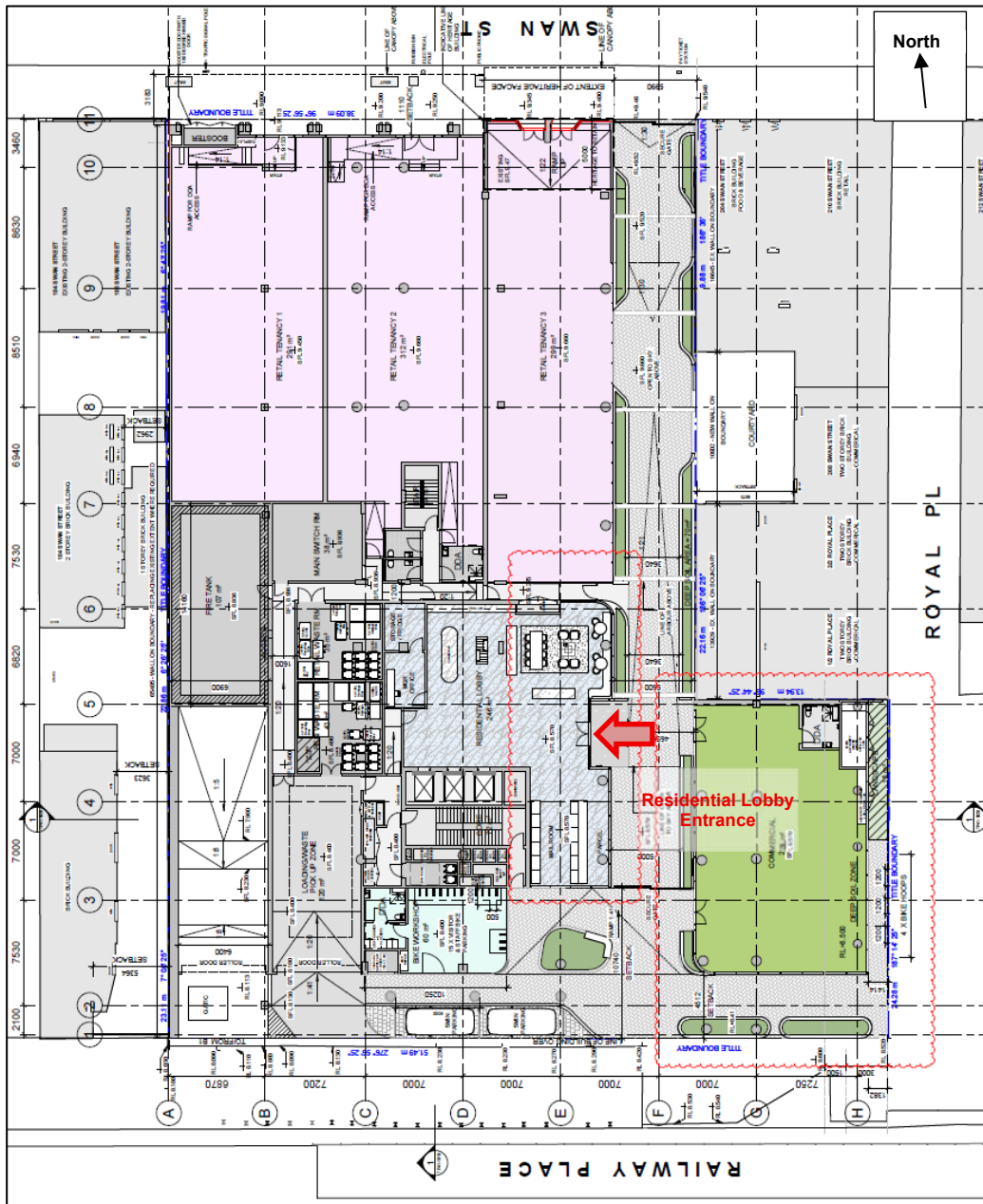


Figure 2: Ground floor plan of the proposed 188-202 Swan Street Development (residential lobby entrance indicated by red arrow).

Level 1 (Figure 3) utilises most of the site, with the exception of the northern section of the north-south thoroughfare, and has balconies and landscaping along the western facade, landscaping along the northern facade (Swan Street), and the amenity outdoor space at the internal corner of the level.

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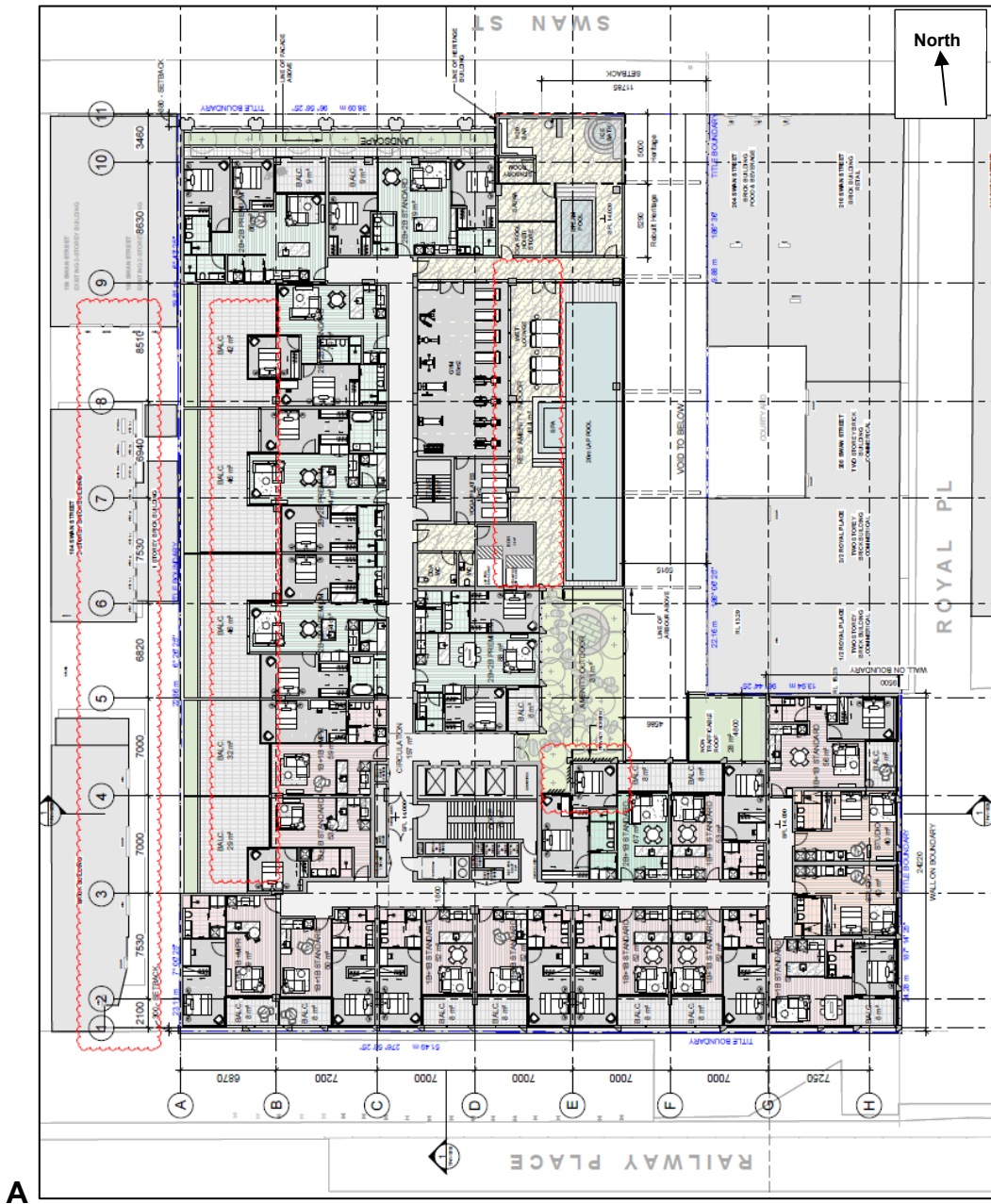


Figure 3: Level 1 floor plan of the proposed 188-202 Swan Street Development.

The facade line of Level 2 (Figure 4) steps back from the north (Swan Street), the southwest, and central to the east facade, to form a combination of balconies and landscaping.

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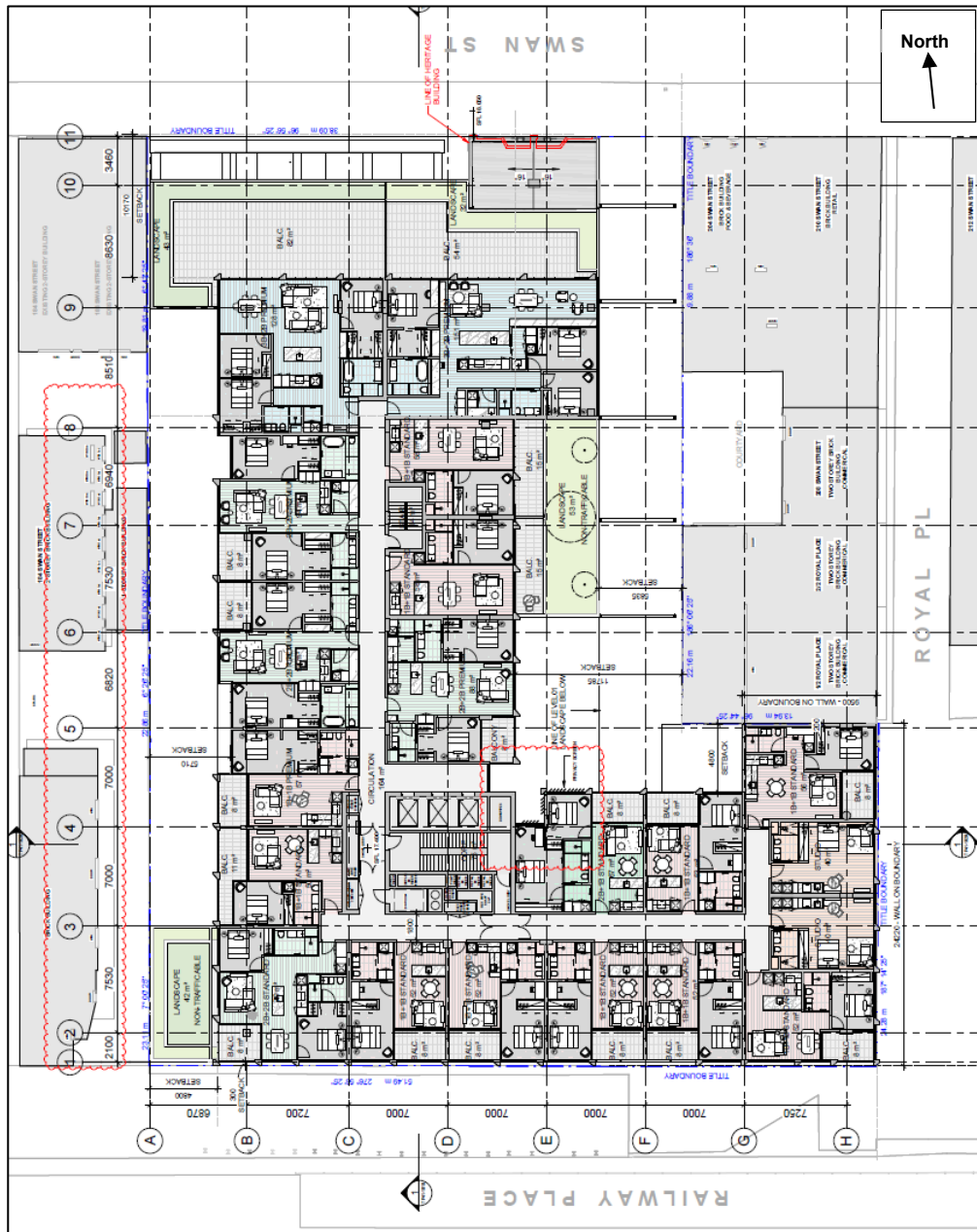


Figure 4: Level 2 floor plan of the proposed 188-202 Swan Street Development.

On Level 3 (Figure 5), the facade steps back further from the north to form more balconies and landscaping.

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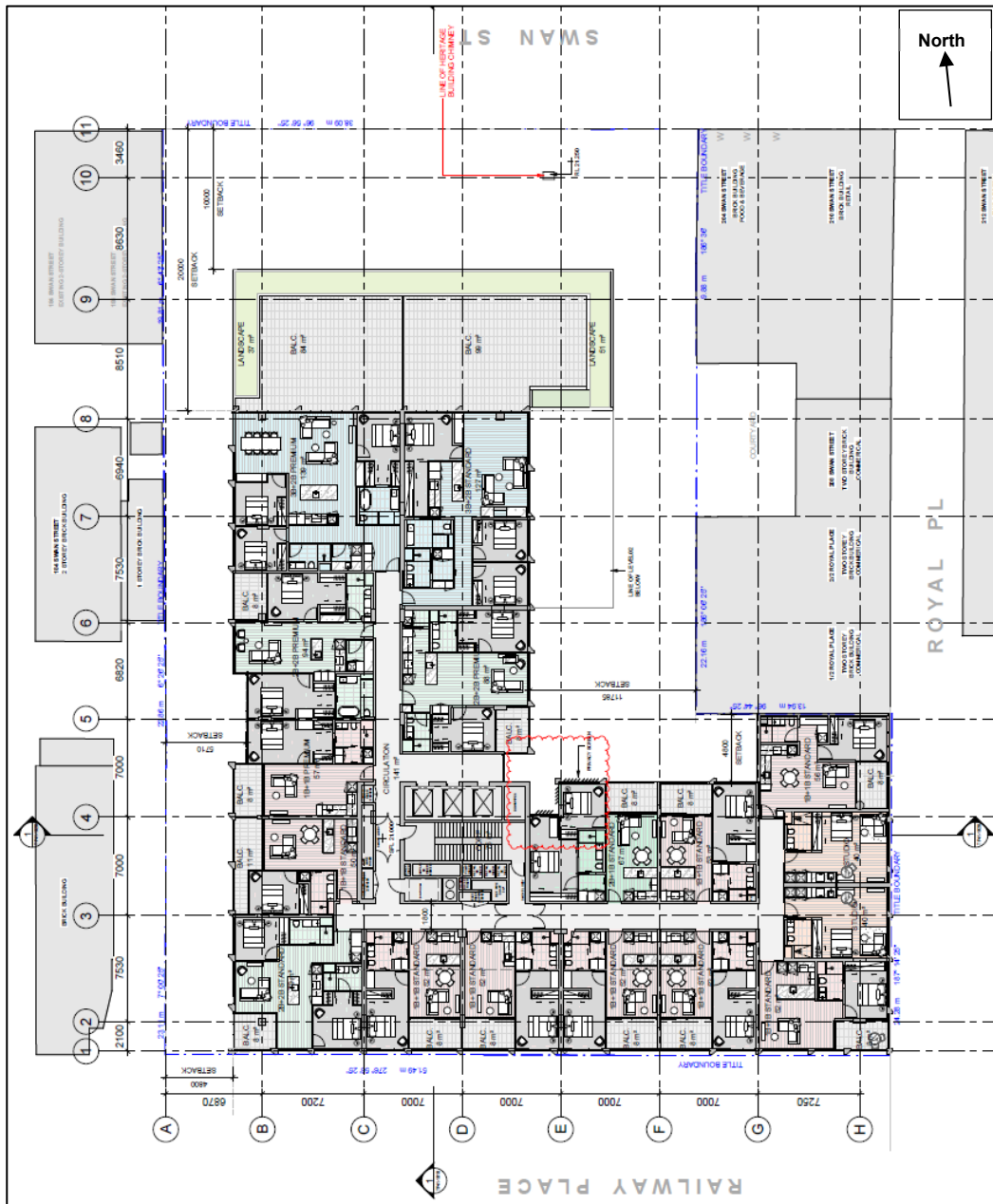


Figure 5: Level 3 floor plan of the proposed 188-202 Swan Street Development.

On Level 4 (Figure 6), the facade line steps back from the east corner of the level to form a balcony and landscaping.

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Figure 6: Level 4 floor plan of the proposed 188-202 Swan Street Development.

Levels 5 to 10 (Figure 7) have the same facade line as Level 4.

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Figure 7: Level 5 floor plan (floor plans for Levels 6 to 10 are the same) of the proposed 188-202 Swan Street Development.

On Level 11 (Figure 8), the facade line sets back from the north, south and east, creating balconies for the nearby apartments.

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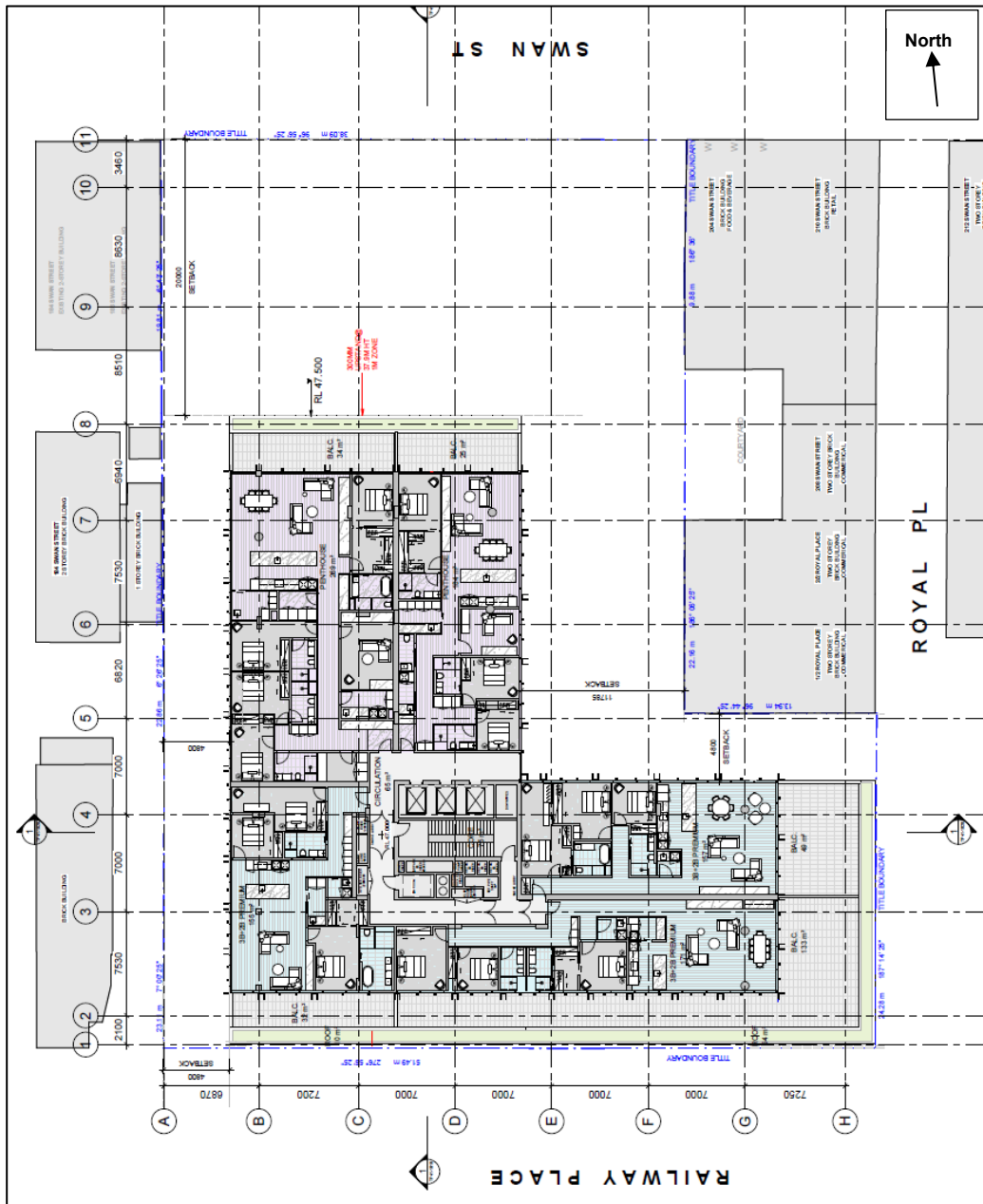


Figure 8: Level 11 floor plan of the proposed 188-202 Swan Street Development.

On the highest apartment level, Level 12 (Figure 9), balconies are created at the eastern end of the level as well as at the northeast, northwest and southwest corners.

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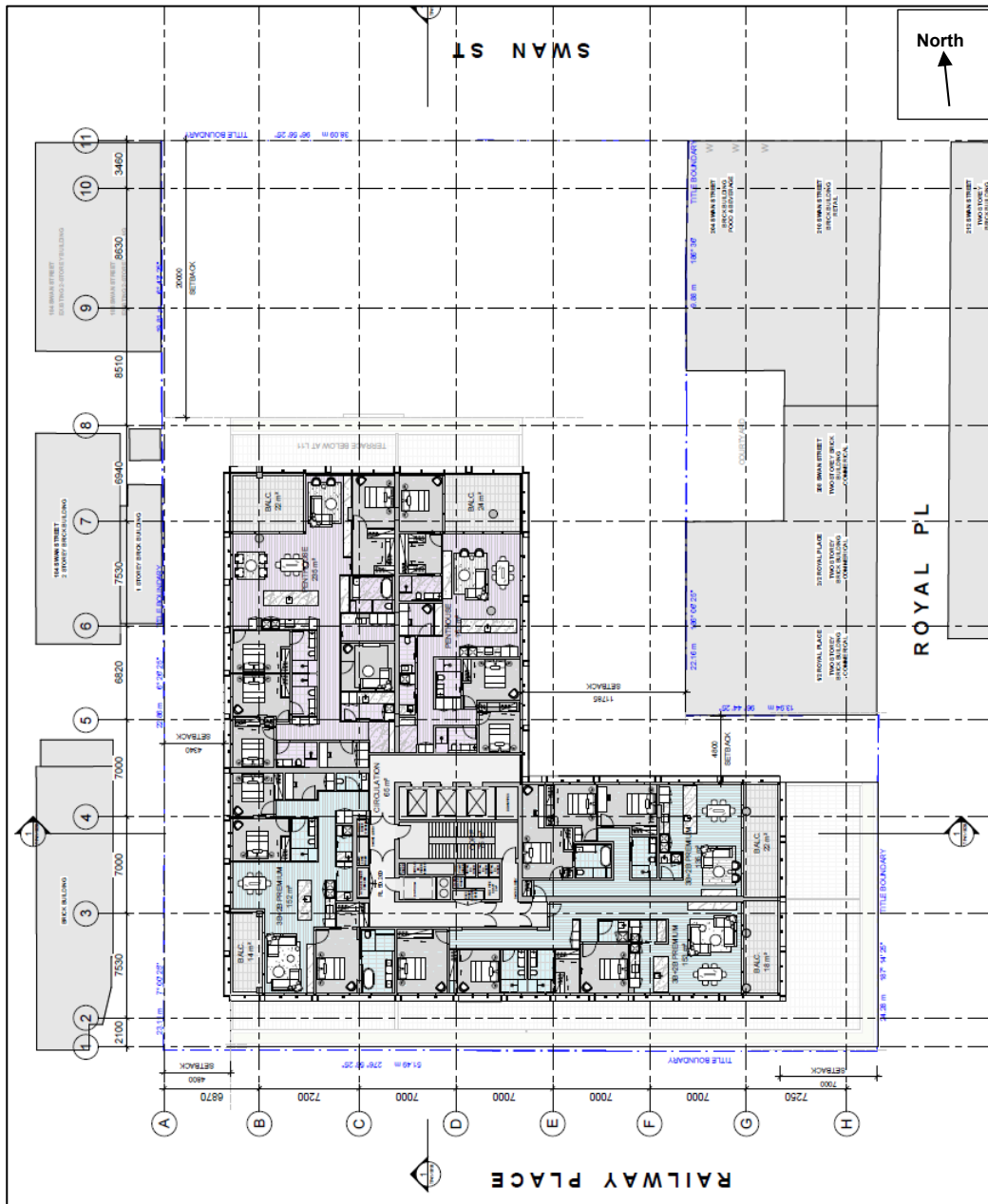


Figure 9: Level 12 floor plan of the proposed 188-202 Swan Street Development.

On the roof level (Figure 10), there will be outdoor amenity spaces around the north, west and south sides of the designated residential indoor amenity area.

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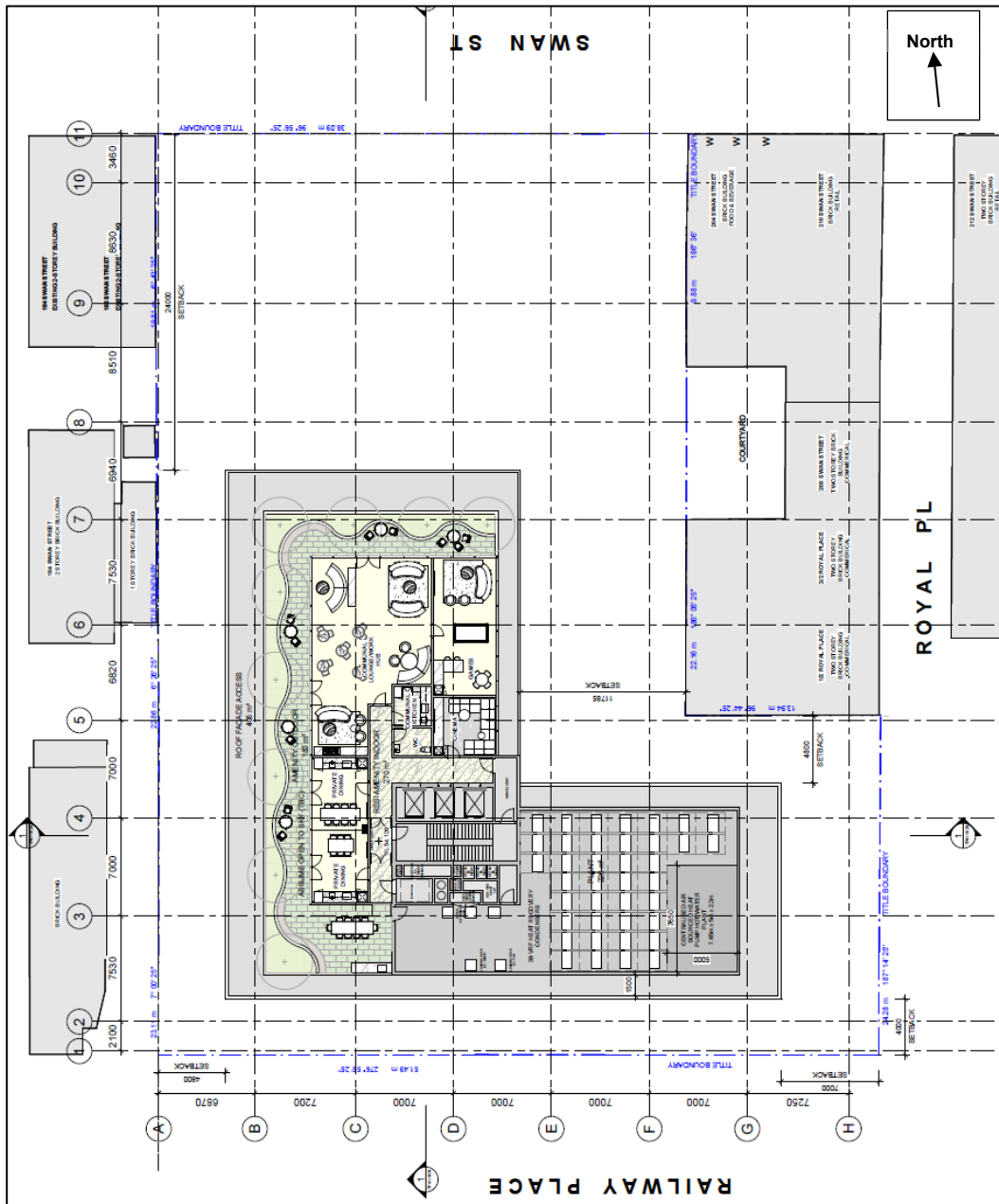


Figure 10: Roof level floor plan of the proposed 188-202 Swan Street Development.

Most of the setbacks from the site boundaries can be seen in the north and east elevations presented in Figures 11 and 12, respectively.

There will be balconies on all facades from Level 1 to Level 12.

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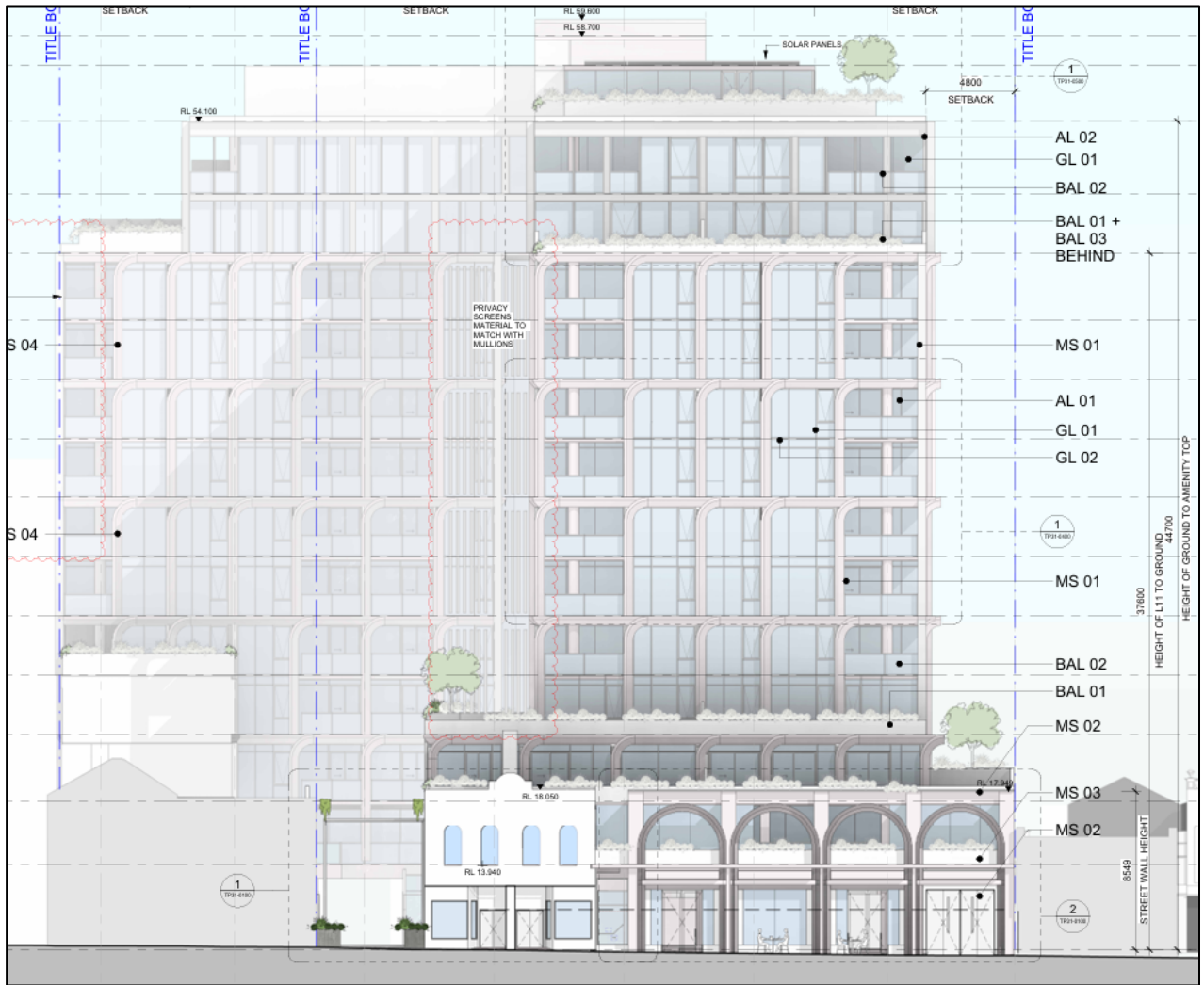


Figure 11: North elevation of the proposed 188-202 Swan Street Development.

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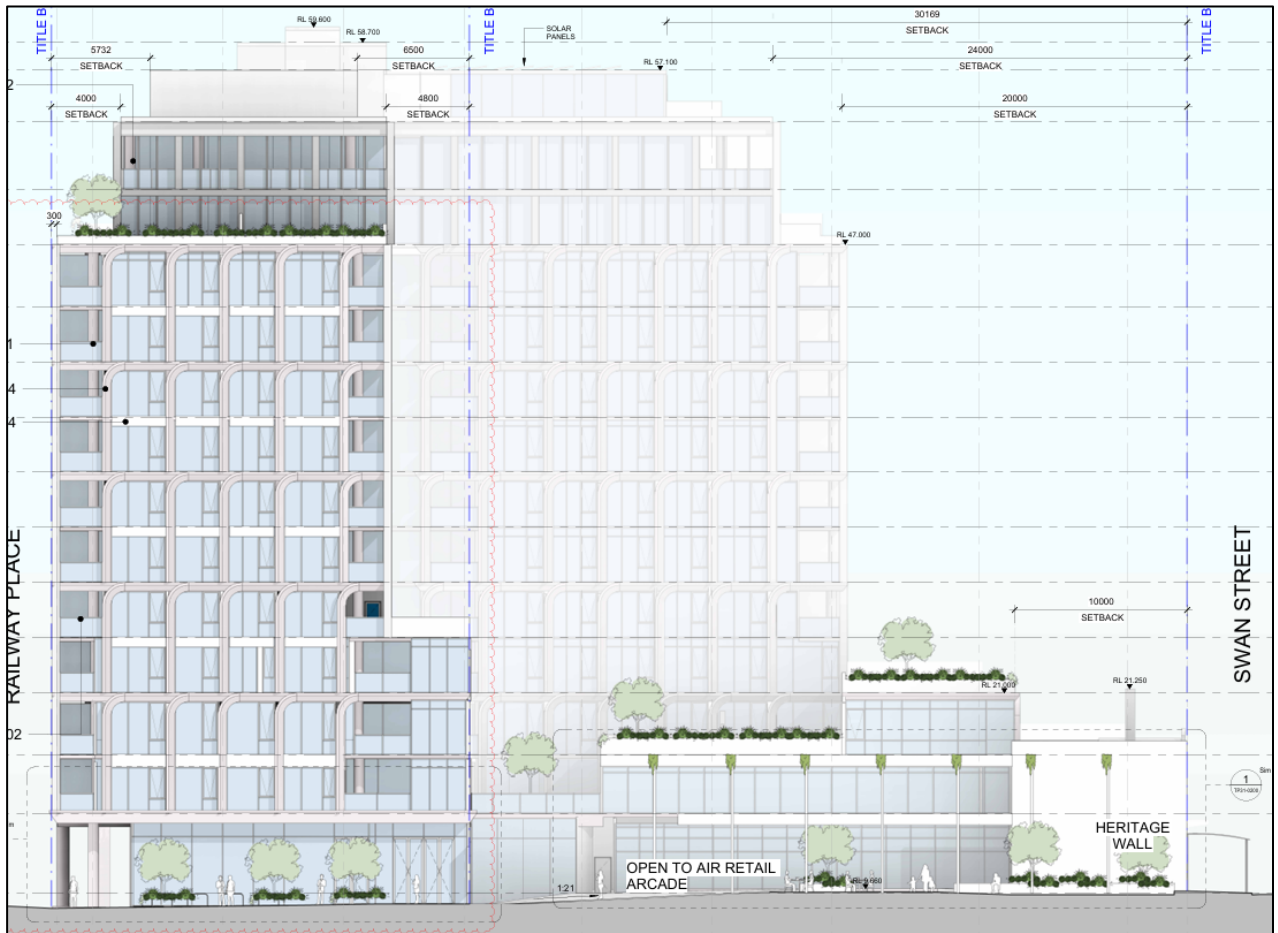


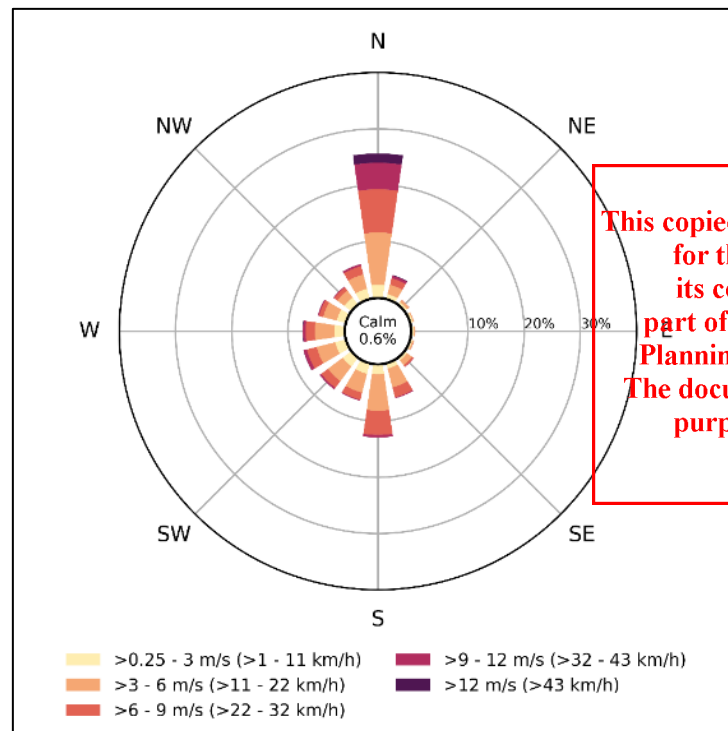
Figure 12: West elevation of the proposed 188-202 Swan Street Development.

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3. WIND ENVIRONMENT AND EXPOSURE

The strongest and most frequent winds in the Melbourne Region come from the north and west sectors with secondary strong winds coming from the south sector; east sector winds are relatively light and infrequent as shown in the wind rose presented in Figure 13.



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Figure 13: Melbourne Wind Climate (Annual).

The proposed development at 188-202 Swan Street would be exposed to the northwest, through north, to east-southeast wind directions over typical residential housing and 1 to 2 storey commercial buildings along Swan Street (it should be noted that the 10+ level development at 2 Brighton Street is currently under construction and would disrupt winds from the east-southeast when completed). The exposure to the southeast to south wind directions would be diminished by the multi-storey apartment developments on Adolph Street, Church Street, and Hutchings Street to the south, while exposure to the west and west-northwest wind directions would be diminished by the multi-storey apartment developments along Swan Street to the west. The exposure to the south-southwest to west-northwest wind directions would be diminished by the multiple multi-storey apartment developments between the proposed development and the Yarra River. The topography of the surrounding terrain is relatively flat in all wind directions and therefore, would be expected to have little significant impact on the approaching wind flow.

4. ASSESSMENT CRITERIA

To assess whether the predicted wind conditions are likely to be acceptable or not, some forms of criteria are required. For the purposes of the wind assessment of the development the wind criteria, safety and comfort, from City of Yarra Planning Scheme Clause 58.04-4 (Standard D17) will be used.

The definition of the criteria is summarised as follows:

58.04-4 Wind Impacts Objective

To ensure the built form, design and layout of development does not generate unacceptable wind impacts within the site or on surrounding land.

Standard D17

Development of five or more storeys, excluding a basement should:

- *not cause unsafe wind conditions specified in Table D6 in public land, publicly accessible areas on private land, private open space and communal open space; and*
- *achieve comfortable wind conditions specified in Table D6 in public land and publicly accessible areas on private land*

within a distance of half the greatest length of the building, or half the total height of the building measured outwards on the horizontal plane from the ground floor building façade, whichever is greater.

Trees and landscaping should not be used to mitigate wind impacts. This does not apply to sitting areas, where trees and landscaping may be used to supplement fixed wind mitigation elements.

Wind mitigation elements, such as awnings and screens should be located within the site boundary, unless consistent with the existing urban context or preferred future development of the area.

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Table D6 Wind Conditions

Unsafe	Comfortable
<i>Annual maximum 3 second gust wind speed exceeding 20 metres/second with a probability of exceedance of 0.1% considering at least 16 wind directions.</i>	<i>Hourly mean wind speed or gust equivalent mean speed (3 second gust wind speed divided by 1.85), from all wind directions combined with probability of exceedance less than 20% of the time, equal to or less than:</i> <ul style="list-style-type: none"> • 3 metres/second for sitting areas • 4 metres/second for standing areas • 5 metres/second for walking areas

Trees and landscaping should not be used to mitigate wind impacts. This does not apply to sitting areas, where trees and landscaping may be used to supplement fixed wind mitigation elements.

Wind mitigation elements, such as awnings and screens should be located within the site boundary, unless consistent with existing urban context or preferred future development of the area.

The above criteria are pass/fail criteria as they only assess the summation of probabilities of exceedance across all wind directions to determine whether a location passes or fails the threshold criterion i.e. the criteria assess the average wind conditions.

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5. RECOMMENDED WIND COMFORT CRITERIA

The following wind comfort criteria are recommended:

Streetscapes	Walking
Building Entrances	Standing
Private Balconies	Walking
Communal Terraces	Walking

The activation of the public realm external to the site would depend on the existing wind conditions in the streetscapes that are often beyond the control of the proposed development. For cases where the existing wind conditions in the public realm external to the site are expected to be on or above the walking criterion, then the proposed development should not have any additional adverse wind effects in these areas.

The wind conditions on private balconies have been recommended to satisfy the walking comfort criterion as these balconies could be considered elective when external conditions would be perceived as acceptable for the desired activity. Users of these balconies will need to be educated on the wind effects and loose objects should not be left on an unattended balcony.

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6. WIND ASSESSMENT

6.1 Swan Street

The north side of the proposed development would be exposed to the strong and frequent northerly winds for Melbourne but the canopies along Swan Street and the stepping back of the northern facade at Levels 2 and 3 would limit the downwash off the northern facade for winds incident onto it down towards pedestrian level. Winds incident onto the western facade would be expected to separate off the northwest corner of the proposed development and flow down into Swan Street, increasing wind conditions more across the street than on the development side. Given the above, the wind conditions along Swan Street would be expected to increase compared to the existing wind conditions but satisfy the walking comfort criterion. The wind conditions outside the entrances to the retail tenancies along Swan Street would be expected to satisfy the standing comfort criterion.

6.2 Royal Place

The wind conditions along the northern end of Royal Place (towards Swan Street) would be expected to be similar or better than existing conditions due to the shielding by the proposed development for westerly winds. Around the southeast corner of the proposed development, downwash from winds incident onto the southern facade of the proposed development would be expected to flow towards, and accelerate around, the southeast corner, part of the designated public park/civic space, increasing wind conditions compared to existing conditions. Although the portion of the eastern facade of the proposed development along Royal Place is essentially 11 storeys shear to ground it will only be exposed to relatively weak and infrequent easterly winds so there would be little significant downwash to pedestrian levels. Given the above, the wind conditions along Royal Place would be expected to satisfy the walking comfort criterion.

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6.3 Railway Place

The wind conditions along Railway Place would be expected to be influenced by the downwash from winds incident onto the southern facade of the proposed development flowing down to pedestrian levels. For winds incident onto the western facade of the proposed development, any downwash would be expected to be deflected away from pedestrian level by the rooftops of the existing 2 storey buildings to the west, while any low separating off the southwest corner of the building would likely flow over Railway Place and onto the railway lines. Given the above, the wind conditions along Railway Place (including the Porte Cochere area) would be expected to satisfy the walking comfort criterion. The wind conditions at the entrances of the retail tenancies opening towards Railway Place would be expected to satisfy the standing comfort criterion.

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6.4 North-south thoroughfare

The wind conditions along the northern section of the north-south thoroughfare (the uncovered section) would be influenced by northerly winds coming straight down the thoroughfare and from flow separating off the northeastern corners of the proposed building down into the thoroughfare. Winds from the south flowing through the southern covered section of the thoroughfare would also be expected to influence the wind conditions in the northern section of the thoroughfare. There would be little significant downwash from winds incident onto the east facade above the thoroughfare as these would be relatively weak and infrequent winds. The wind conditions along the northern section of the thoroughfare (including an entrance to adjacent retail tenancy), away from the Swan Street end and the covered section of the thoroughfare would be expected to satisfy the standing comfort criterion, while the wind conditions at the ends of the northern section of the thoroughfare would be expected to satisfy the walking comfort criterion.

The wind conditions under the southern (covered) section of the north-south thoroughfare would be expected to be influenced by northeasterly winds flowing into the re-entrant corner created by the "L" shape of the building, and by southerly winds being brought down the southern facade and flowing/being drawn through the "tunnel" created by the covered thoroughfare. The wind conditions within the southern section of the thoroughfare (which

include the entrance to the residential lobby) would be expected to approach or exceed the walking comfort criterion and wind speeds to approach the safety criterion. It would be recommended that the wind conditions along the southern section of the thoroughfare be wind tunnel tested to quantify the wind conditions there and to develop wind mitigation strategies.

6.5 Outdoor communal spaces

The wind conditions on the Level 1 Amenity Outdoor area would be expected to be influenced by downwash from northeasterly winds into the re-entrant corner of the development. For all other wind directions, the Level 1 Amenity Outdoor area would be well sheltered and therefore the wind conditions in this area would be expected to satisfy the standing comfort criterion at a minimum.

For winds approaching the facades of the top third of the proposed building, the building's pressure field would be expected to induce wind flow up and over the rooftop. For the Amenity Outdoor areas on the Roof Level, the set back from the rooftop edge would be expected to allow a majority of flow rising up and over the roof level to flow over the Amenity Outdoor areas. There may be some more swirly and gusty winds across the rooftop areas, though, due to flow separating across the corners of the building and flow reattachment due to its large extent. Given the above, the wind conditions across the Amenity Outdoor areas on the Roof Level would be expected to satisfy the walking comfort criterion and likely standing at some locations within.

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6.6 Balconies

The wind conditions on the private balconies depend on the location of the balcony, with the recessed central balconies having better wind conditions compared to corner balconies. The assessment of the wind conditions on the private balconies are as follows:

Levels 1 to 12

Recessed central balconies	standing/sitting comfort
Away from corners	standing comfort
At or around corners	walking comfort

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7. CONCLUSIONS

We have assessed the expected environmental wind conditions in the streetscapes surrounding the proposed development at 188-202 Swan Street, Cremorne, detailed in drawings prepared by Cox Architecture listed in Appendix A. This desktop wind impact assessment for the development at 188-202 Swan Street has been prepared considering the wind criteria in Clause 58.04-4 Standard D17 of the Yarra Planning Scheme.

The wind conditions have been assessed with consideration of the proposed 188-202 Swan Street development and the comfort criteria satisfied are as follows:

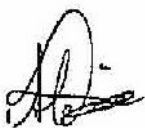
- walking comfort criterion along Swan Street, Royal Place and Railway Place.
- standing comfort criterion outside retail tenancy entrances.
- standing comfort criterion along the central part of the northern (uncovered) section of the north-south thoroughfare, and walking comfort criterion at its ends.
- above walking comfort criterion and approaching safety criterion along the southern (covered) section of the north-south thoroughfare, which includes the residential lobby entrance.
- walking comfort criterion at a minimum for all balconies, with balconies located away from building corners, assessed as satisfying standing or sitting comfort criteria.
- walking comfort criterion at a minimum for the Amenity Outdoor areas on Level 1 and the rooftop level.

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All areas around the development, with the exception of the southern section of the north-south thoroughfare, would satisfy the safety criterion.

Recommendations for wind tunnel testing have been made to quantify wind conditions along the north-south thoroughfare and, if required, to develop wind mitigation strategies.

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1 April 2026

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1 April 2026

Appendix A – Drawing Register

Drawing #	Rev	Date	Title
TP21-0600	6	27/3/26	Basement 4 Plan
TP21-0700	7	27/3/26	Basement 3 Plan
TP21-0800	8	27/3/26	Basement 2 Plan
TP21-0900	8	27/3/26	Basement 1 Plan
TP21-1001	8	27/3/26	Ground Floor Plan
TP21-1011	7	27/3/26	Level 1 Plan
TP21-1021	6	27/3/26	Level 2 Plan
TP21-1031	7	27/3/26	Level 3 Plan
TP21-1041	6	27/3/26	Level 4 Plan
TP21-1051	6	27/3/26	Level 5 – 10 Plan
TP21-1111	5	27/3/26	Level 11 Plan
TP21-1121	5	27/3/26	Level 12 Plan
TP21-1131	4	27/3/26	Level 13 Plan
TP21-1141	3	27/3/26	Roof Plan
TP30-1010	5	27/3/26	North Elevation
TP30-1020	5	27/3/26	East Elevation
TP30-1030	5	27/3/26	South Elevation
TP30-1040	4	12/12/25	West Elevation

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