WINDTECH

PEDESTRIAN WIND ENVIRONMENT STATEMENT

300 BURNS BAY ROAD, LANE COVE

WK211-01F02(REV2)- WS REPORT

FEBRUARY 17, 2026

Prepared for:

Lane Cove Developments No.1 Pty Ltd

102 Bonds Rd, Riverwood 2210

AT THE LEADING EDGE

WINDTECH CONSULTANTS

www.windtechconsult.com

reception@windtechglobal.com

Sydney | Singapore | London | Melbourne | Mumbai | New York | Hong Kong | Dubai | Miami | Toronto

DOCUMENT CONTROL

Date	Revision History	Issued Revision	Prepared By (initials)	Instructed By (initials)	Reviewed & Authorised by (initials)
November 13, 2025	Initial.	0	PM/AFM	SR	AFM
December 6, 2025	Updated Plans and Treatments.	1	AFM	SR	AFM
February 17, 2025	AH Count Update.	2	AFM	SR	AFM

EXECUTIVE SUMMARY

This report presents an opinion on the likely impact of the residential development proposed at 300 Burn Bays Road, in Lane Cove, on the local wind environment at the critical outdoor areas within and around the subject site. The effect of wind activity has been examined for the three predominant wind directions for the region, namely the north-easterly, southerly, and westerly winds. The analysis of the wind effects relating to the proposed development have been carried out in the context of the local wind climate, building morphology and land topography.

The conclusions of this report are drawn from our extensive experience in this field and are based on an examination of the latest architectural drawings. No wind tunnel testing has been undertaken for the subject development, and hence this report addresses only the general wind effects and any localised effects that are identifiable by visual inspection of the architectural drawings provided (received November 28, 2025). Any recommendations in this report are made only in-principle and are based on our extensive experience in the study of wind environment effects.

The results of this assessment indicate that the development has incorporated several design features and wind mitigating strategies and is expected to be suitable for the intended use for the majority of the outdoor trafficable areas. However, there are some areas that are likely to be exposed to stronger winds. It is expected that the wind effects identified in the report can be ameliorated with the consideration of the following treatment strategies into the design of the development. These treatment measures are already shown in the architectural and landscape drawings.

Treatments - Lower Ground Level and Ground Level:

- Retention of the proposed set-back nature of the proposed building envelope from the site boundary.
- Retention of all the existing trees (except those that are marked for removal) and the proposed trees immediately surrounding the site (including those proposed along the northern and southern boundaries), ensuring that the trees are of an evergreen and densely foliating species capable of growing to a height of at least 3-6m, with 3-6m wide canopies, and the hedges/shrubs (e.g. those along the southern courtyards) are capable of growing to a height of at least 1.2-1.5m.
- Retention of the proposed set-back nature of the various building entrances.

Treatments - Communal Areas:

- Communal Areas on Level 7 (Building C) and Level 10 (Building C):
    - Retention of the proposed of 1.5m high impermeable balustrade along the entire exposed perimeter. In cases where a balustrade is provided on top of a raised planter, then the combined height of the planter plus the balustrades (measured from the finished floor level) is recommended to be at least 1.5m.
    - Retention of the proposed evergreen and densely foliating vegetation within the raised planters, to break up the winds that travel over the edge screening and attempt to re-attach towards the centre of the terraces.
- Level 8 (Communal Areas between Buildings A and B, as well as B and C):

- Retention of the proposed 1.8m high impermeable balustrades along the northern and southern edges of both the communal areas. In cases where a balustrade is provided on top of a raised planter, then the combined height of the planter plus the balustrades (measured from the finished floor level) is recommended to be at least 1.8m.
- Retention of the proposed evergreen and densely foliating vegetation within the raised planters, to break up the winds that travel over the edge screening and attempt to re-attach towards the centre of the terraces.

- Communal Areas on Level 12 (Buildings A and B) and Level 15 (Building A):
  - Retention of the proposed of 1.8m high impermeable balustrade along the entire exposed perimeter. In cases where a balustrade is provided on top of a raised planter, then the combined height of the planter plus the balustrades (measured from the finished floor level) is recommended to be at least 1.8m.
  - Retention of the proposed evergreen and densely foliating vegetation within the raised planters, to break up the winds that travel over the edge screening and attempt to re-attach towards the centre of the terraces.

Treatments – Corner Private Balconies:

- Retention of the proposed impermeable balustrades along the exposed edges of the private balconies. The extents and heights of these balustrades maybe optimised at a more detailed design stage via wind tunnel testing.

With the retention of the abovementioned recommendations in the final design, it is expected that wind conditions for the various trafficable outdoor areas within and around the development will be suitable for their intended uses, and that the wind speeds will satisfy the applicable criteria for pedestrian comfort and safety.

CONTENTS

1 INTRODUCTION

This desktop pedestrian wind environment assessment report is prepared by Windtech Consultants on behalf of Lane Cove Developments no.1 Pty Ltd ('the Applicant') in support of a concurrent Rezoning Proposal and State Significant Development Application (Rezoning and SSDA) for a mixed-use development for the site at 300 Burns Bay Road, Lane Cove (the site).

This SSDA seeks approval for:

- Demolition of existing structures on the site, tree removal and site excavation for basement levels.
- Construction of a new residential flat building ranging from 7-15 storeys and comprising 225 apartments including:
    - 198 market apartments;
    - 34 affordable apartments; and
    - Communal areas at lower ground, ground level with new recreation park at the eastern edge of the site, rooftop levels including a pool.
- Car and bicycle parking for residents and visitors at lower ground and two (2) basement levels, including:
    - 237 car parking spaces;
    - Garbage storage; and
    - Plant rooms and other associated services.
- Public domain and landscaping improvements, including:
    - New open space at the eastern edge of the site; and
    - Hard and soft landscaping works.

The concurrent Rezoning seeks the following amendments to the Lane Cove Local Environmental Plan 2010 (LCLEP 2010) to facilitate the proposed development:

- Amend the Height of Buildings Map under Clause 4.3 to increase the building height from 21m to 54m; and
- Amend the Maximum Floor Space Ratio Map under Clause 4.4 to change the maximum Floorspace Ratio (FSR) from 2:1 to 3.22:1.

For a further detailed project description, please refer to the Environmental Impact Statement and Rezoning Report prepared by Colliers Urban Planning.

This report should be read in conjunction with the Rezoning Request and Environmental Impact Statement prepared by Colliers Urban Planning, the Architectural Plans prepared by PBD Architects, and the other accompanying technical documents that form part of the State Significant Development Application.

This report presents an opinion on the likely impact of the proposed design on the local wind environment affecting pedestrians within the critical outdoor areas within and around the subject development. The analysis of wind effects relating to the proposed development has been carried out in the context of the predominant wind directions for the region, building morphology of the development and nearby buildings, and local land

topography. The conclusions of this report are drawn from our extensive experience in the field of wind engineering and studies of wind environment effects.

No wind tunnel testing has been undertaken for this assessment. Hence this report addresses only the general wind effects and any localised effects that are identifiable by visual inspection of the drawings provided (listed in Appendix B), and any recommendations in this report are made only in-principle.

Secretary's Environmental Assessment Requirements

This report has been prepared to respond to the Secretary's Environmental Assessment Requirements (SEARS) dated 18 July 2025 for SSD-27925706. Specifically, this report has been prepared to respond to those SEARS outlined in Table 1 below.

Table 1 Secretary's Environmental Assessment Requirements relevant to this Report

SEAR – No. 7 - Environmental Amenity	Response
Assess amenity impacts on the surrounding locality, including solar access, visual privacy, view loss and view sharing, as well as **wind**, lighting and reflectivity impacts. A high level of environmental amenity for any surrounding residential or other sensitive land uses must be demonstrated.	Refer to Section 5

2 DESCRIPTION OF DEVELOPMENT AND SURROUNDINGS

The site is located at 300 Burns Bay Road, Lane Cove NSW 2066 and is legally described as Lot 15 DP1230609.

Situated within the Lane Cove Council (LCC) Local Government Area (LGA), the site is zoned R4 High Density Residential within the Lane Cove Local Environmental Plan 2009 (LCLEP). It has an area of 7,595 m^2 and comprises an existing office building and warehouse extension on the eastern portion of the site. A single storey structure providing car parking occupies the western part of the site. Car parking is also provided at grade along the southern site boundary and a tennis court is located on the western part of the site.

The site has a sloping topography, with a high point at 22.15m (AHD) along the boundary with the properties to the north, sloping south to a low point of 18.83m (AHD) along the southern boundary, representing an approx. 3.5m level change across the site from north to south.

Vehicle and pedestrian access to the site is via Burns Bay Road. A right of carriageway extends along the western site boundary for driveway access to the neighbouring buildings at 292-298 Burns Bay Road.

Aerial images of the subject site and the local surroundings is shown in Figures 2a and 1b, where latter presents the frequency and magnitude of the prevailing winds is superimposed for each wind direction.

The critical outdoor trafficable areas associated with the proposed development, which are the focus of this assessment with regards to wind effects, are listed as follows:

- Ground Level (including Lower Ground) areas and surrounding pedestrian footpaths.
- Various building entrances.
- Communal areas located on Level 7 (Building C), Level 8 (between Buildings A and B, as well as B and C), Level 10 (Building C), Level 12 (Buildings A and B), Level 15 (Building A).
- Private balconies.

Figure 1a: Aerial Image of the Site Location
(Source: Nearmap, edits by Colliers Urban Planning)

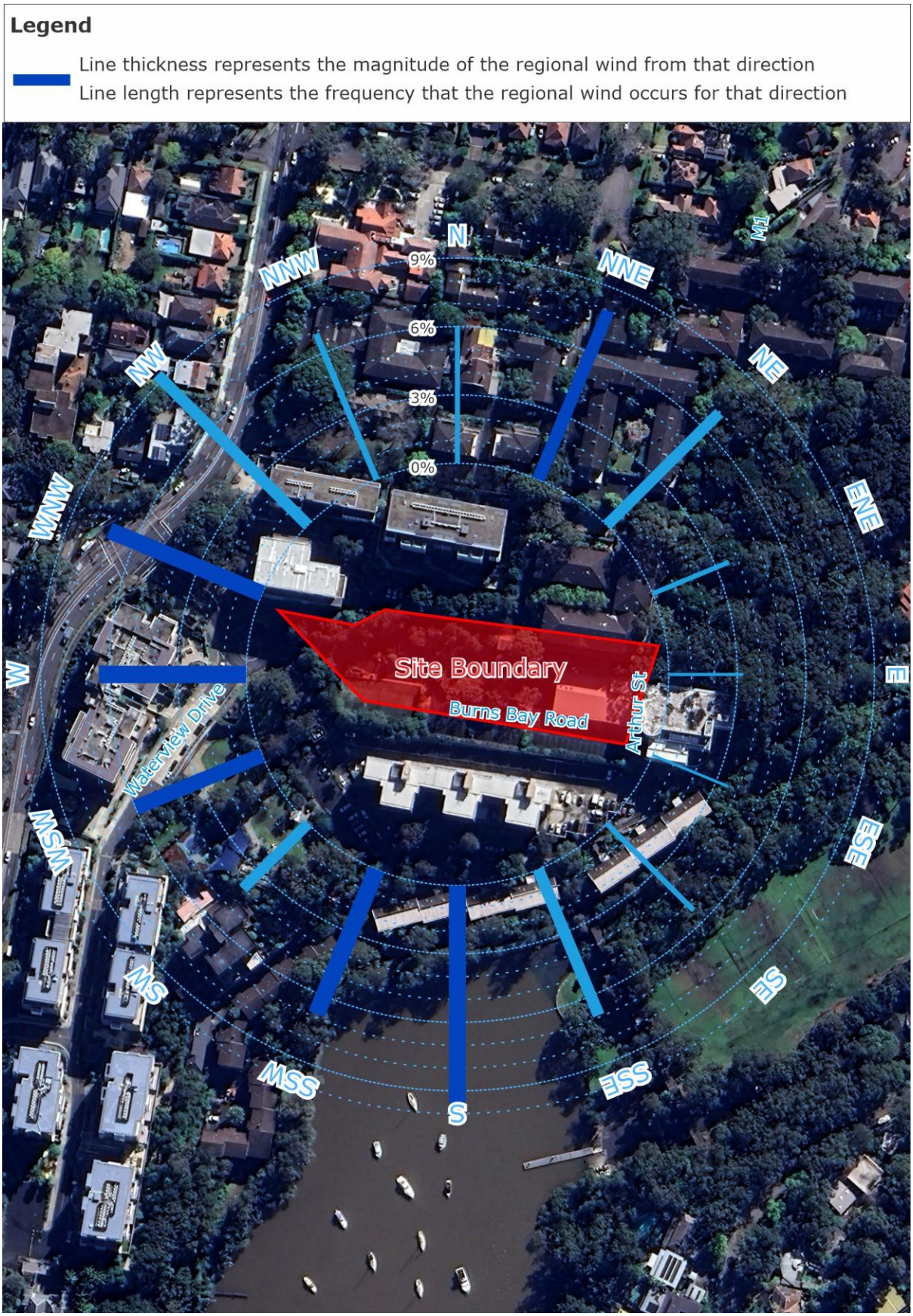

Figure 2b: Prevailing Wind Directions

3 REGIONAL WIND

The Lane Cove region is governed by three principal wind directions that can potentially affect the subject development. These winds prevail from the north-east, south, and west. These wind directions were determined from an analysis undertaken by Windtech Consultants of recorded directional wind speeds obtained from the meteorological station located at Kingsford Smith Airport by the Bureau of Meteorology (recorded from 1995 to 2016). The data has been corrected to represent winds over standard open terrain at a height of 10m above ground level. The results of this analysis are presented in Figure 3 in the form of a directional plot of the annual and 5% exceedance mean winds for the region. The frequency of occurrence of these winds is also shown in Figure 3.

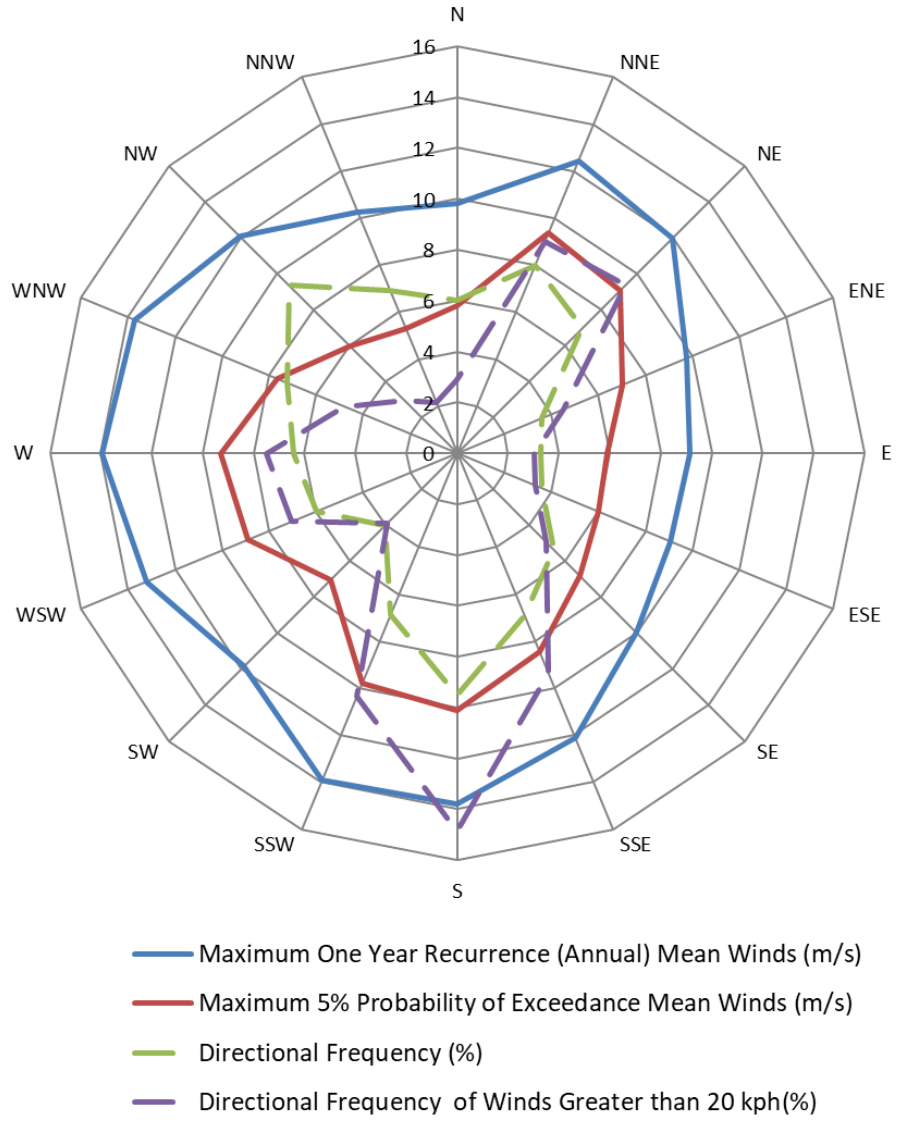

Figure 3: Directional Annual and 5% Exceedance Hourly Mean Wind Speeds (referenced to 10m height in standard open terrain), and Frequencies of Occurrence, for the Lane Cove Region

4 WIND EFFECTS ON PEOPLE

The acceptability of wind in any area is dependent upon its use. For example, people walking, or window-shopping will tolerate higher wind speeds than those seated at an outdoor restaurant. Various other researchers, such as A.G. Davenport, T.V. Lawson, W.H. Melbourne, and A.D. Penwarden, have published criteria for pedestrian comfort for pedestrians in outdoor spaces for various types of activities. Some Councils and Local Government Authorities have adopted elements of some of these into their planning control requirements.

For example, A.D. Penwarden (1973) developed a modified version of the Beaufort scale which describes the effects of various wind intensities on people. Table 1 presents the modified Beaufort scale. Note that the effects listed in this table refers to wind conditions occurring frequently over the averaging time (a probability of occurrence exceeding 5%). Higher ranges of wind speeds can be tolerated for rarer events.

Table 1: Summary of Wind Effects on People (A.D. Penwarden, 1973)

Type of Winds	Beaufort Number	Mean Wind Speed (m/s)	Effects
Calm	0	Less than 0.3	Negligible.
Calm, light air	1	0.3 – 1.6	No noticeable wind.
Light breeze	2	1.6 – 3.4	Wind felt on face.
Gentle breeze	3	3.4 – 5.5	Hair is disturbed, clothing flaps, newspapers difficult to read.
Moderate breeze	4	5.5 – 8.0	Raises dust, dry soil and loose paper, hair disarranged.
Fresh breeze	5	8.0 – 10.8	Force of wind felt on body, danger of stumbling
Strong breeze	6	10.8 – 13.9	Umbrellas used with difficulty, hair blown straight, difficult to walk steadily, wind noise on ears unpleasant.
Near gale	7	13.9 – 17.2	Inconvenience felt when walking.
Gale	8	17.2 – 20.8	Generally impedes progress, difficulty balancing in gusts.
Strong gale	9	Greater than 20.8	People blown over.

It should be noted that wind speeds affecting this particular development can only be accurately quantified with a wind tunnel study. This assessment addresses only the general wind effects and any localised effects that are identifiable by visual inspection and the acceptability of the conditions for outdoor areas are determined based on their intended use. Any recommendations in this report are made only in-principle and are based on our extensive experience in the study of wind environment effects.

5 RESULTS AND DISCUSSION

The expected wind conditions affecting the development are discussed in the following sub-sections of this report for the various outdoor areas within and around the subject development. The interaction between the wind and the building morphology in the area is considered and important features taken into account including the distances between the surrounding buildings and the proposed building form, as well as the surrounding landform. Note that only the potentially critical wind effects are discussed in this report. A glossary of the different wind effects described in this report included in Appendix A.

For this assessment, the wind speed criteria for pedestrian comfort that are considered are listed as follows:

- Walking Criterion (8m/s with a 5% probability of exceedance)
  for general circulation and pedestrian thoroughfares, e.g. footpaths, private balconies/terraces, through-site links etc.

- Standing (Short Exposure) Criterion (6m/s with a 5% probability of exceedance)
  for stationary activities generally less than an hour, e.g. waiting areas, communal terraces, main entries, café seating etc.

- Sitting (Long Exposure) (4m/s with a 5% probability of exceedance)
  for stationary activities longer than an hour, e.g. outdoor cinemas, outdoor fine dining etc.

Note that the above wind comfort levels are derived from the Lawson (1975) criteria. Although this assessment is qualitative in nature, the abovementioned criteria for pedestrian comfort are considered when assessing the wind environment impacts. However, all areas are also assessed with consideration to a pedestrian safety criterion of 23m/s for the annual maximum gust.

5.1 Ground Level Areas

The subject site is situated off to the east of the main roads in the vicinity (Burns Bay Road and Waterview Drive), and hence the wind conditions within and the around the public footpath areas along these main roads are not expected to be impacted by the inclusion of the subject development. The narrow roads that branch off from the main Burns Bay Road (that run along the west and south of the site) are used primarily as driveways without any designated footpaths. Even if these narrow roads are used as pedestrian footpaths, the inclusion of the subject development is not expected to deteriorate the wind conditions for pedestrians walking on these roads because of the set back of the overall building massing from these pathways. The tower levels are set-back further in relation to the Lower Ground Level and Ground Level massing, preventing any downwash winds (and side streams) off the various facades from impacting the public areas.

The Lower Ground Level is exposed only along the southern aspect (with the other aspects situated underground). Direct southerly winds can impact the pedestrian footpath areas located to the south of the development, however the existing 8-storey building located in this direction is expected to shield most of the pedestrian trafficable areas. The clusters of dense evergreen trees located around the site are also expected to reduce the intensity of the prevailing winds that approach the site generally. The Ground Level is exposed primarily to the north-easterly prevailing winds, although the effects of these winds are expected to be reduced

due to the shielding provided by the houses situated to the north, while the existing dense tree planting surrounding the site will further enhance the wind conditions. The various building entrances are set-back well into the built form, and hence the areas just outside the entrances are expected to satisfy the standing comfort criterion. Any residual wind effects within the various pedestrian trafficable areas at the Lower Ground and Ground planes are expected to be ameliorated with the retention of the newly proposed trees and hedges/shrubs planting along the northern and southern boundaries of the development.

The following in-principle wind mitigation measures are recommended to be included/retained in the design to ameliorate the effects of prevailing winds on the Lower Ground Level and Ground Level pedestrian trafficable areas:

Treatments - Lower Ground Level and Ground Level:

- Retention of the proposed set-back nature of the proposed building envelope from the site boundary.
- Retention of all the existing trees (except those that are marked for removal) and the proposed trees immediately surrounding the site (including those proposed along the northern and southern boundaries), ensuring that the trees are of an evergreen and densely foliating species capable of growing to a height of at least 3-6m, with 3-6m wide canopies, and the hedges/shrubs (e.g. those along the southern courtyards) are capable of growing to a height of at least 1.2-1.5m.
- Retention of the proposed set-back nature of the various building entrances.

5.2 Commnual Areas

The development proposes to include communal terrace areas on Level 7 (Building C), Level 8 (between Buildings A and B, as well as B and C), Level 10 (Building C), Level 12 (Buildings A and B) and Level 15 (Building A). As the surrounding developments in the immediate vicinity are generally shorter than the subject development, and at lower levels than the above listed terraces, these communal areas are exposed to the north-easterly, southerly and westerly prevailing winds. These prevailing winds can cause direct effects as well as corner separation and acceleration effects as they side-stream along the services enclosures. The north-easterly and southerly wind can also funnel through the two terraces on Level 8, which can deteriorate the usability of these spaces.

The following in-principle wind mitigation measures, are recommended to be included/retained in the design to ameliorate the effects of prevailing winds within the various communal areas:

Treatments - Communal Areas:

- Communal Areas on Level 7 (Building C) and Level 10 (Building C):
    - Retention of the proposed of 1.5m high impermeable balustrade along the entire exposed perimeter. In cases where a balustrade is provided on top of a raised planter, then the combined height of the planter plus the balustrades (measured from the finished floor level) is recommended to be at least 1.5m.
    - Retention of the proposed evergreen and densely foliating vegetation within the raised planters, to break up the winds that travel over the edge screening and attempt to re-attach towards the centre of the terraces.

- Level 8 (Communal Areas between Buildings A and B, as well as B and C):
    - Retention of the proposed 1.8m high impermeable balustrades along the northern and southern edges of both the communal areas. In cases where a balustrade is provided on top of a raised planter, then the combined height of the planter plus the balustrades (measured from the finished floor level) is recommended to be at least 1.8m.
    - Retention of the proposed evergreen and densely foliating vegetation within the raised planters, to break up the winds that travel over the edge screening and attempt to re-attach towards the centre of the terraces.

- Communal Areas on Level 12 (Buildings A and B) and Level 15 (Building A):
    - Retention of the proposed of 1.8m high impermeable balustrade along the entire exposed perimeter. In cases where a balustrade is provided on top of a raised planter, then the combined height of the planter plus the balustrades (measured from the finished floor level) is recommended to be at least 1.8m.
    - Retention of the proposed evergreen and densely foliating vegetation within the raised planters, to break up the winds that travel over the edge screening and attempt to re-attach towards the centre of the terraces.

5.3 Private Balconies

Some of the private balconies within the development are expected to be suitable for their intended uses due to the inclusion of various wind mitigation features such as their overall recessed design, impermeable balustrades, impermeable intertenancy screens, and full-height impermeable end screens. These features should be retained in the final design. However, the various corner balconies throughout the development are exposed to strong wind effects (typically corner acceleration and side-streaming), and are recommended to be treated as follows:

Treatments – Corner Private Balconies:

- Retention of the proposed impermeable balustrades along the exposed edges of the private balconies. The extents and heights of these balustrades maybe optimised at a more detailed design stage via wind tunnel testing.

5.4 Concluding Remarks

With the retention of the abovementioned recommendations in the final design, it is expected that wind conditions for the various trafficable outdoor areas within and around the development will be suitable for their intended uses, and that the wind speeds will satisfy the applicable criteria for pedestrian comfort and safety.

6 REFERENCES

Davenport, A.G., 1972, "An approach to human comfort criteria for environmental conditions". Colloquium on Building Climatology, Stockholm.

Lawson, T.V., 1973, "The wind environment of buildings: a logical approach to the establishment of criteria". Bristol University, Department of Aeronautical Engineering.

Lawson, T.V., 1975, "The determination of the wind environment of a building complex before construction". Bristol University, Department of Aeronautical Engineering.

Lawson, T.V., 1980, "Wind Effects on Buildings - Volume 1, Design Applications". Applied Science Publishers Ltd, Ripple Road, Barking, Essex, England.

Melbourne, W.H., 1978, "Criteria for Environmental Wind Conditions". *Journal of Wind Engineering and Industrial Aerodynamics*, vol. 3, pp241-249.

Penwarden, A.D. (1973). "Acceptable Wind Speeds in Towns", Building Science, vol. 8: pp259–267.

Penwarden, A.D., Wise A.F.E., 1975, "Wind Environment Around Buildings". Building Research Establishment Report, London.

APPENDIX A WIND EFFECTS GLOSSARY

A.1 Downwash and Upwash Effects

The downwash wind effect occurs when wind is deflected down the windward face of a building, causing accelerated winds at pedestrian level. This can lead to other adverse effects as corner acceleration as the wind attempts to flow around the building, as seen in Figure A.1.

This can also lead to recirculating flow in the presence of a shorter upstream building, causing local ground level winds to move back into the prevailing wind.

The upwash effect occurs near upper level edge of a building form as the wind flows over the top of the building. This has the potential to cause acceleration of winds near the leading edge, as well as potentially reattaching onto the roof area. This effect causes wind issues particularly near the leading edges of tall building and on the rooftop areas if there is sufficient depth along the wind direction. Upwash is more apparent in taller towers and podia.

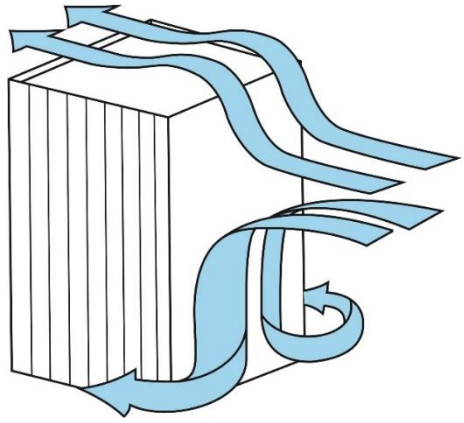

Figure A.1: Downwash Leading to Corner Wind Effect, and Upwash Effects

A.2 Funnelling/Venturi Effect

Funnelling occurs when the wind interacts with two or more buildings which are located adjacent to each other, which results in a bottleneck, as shown in Figure A.2. This causes the wind to be accelerated through the gap between the buildings, resulting in adverse wind conditions and pedestrian discomfort within the constricted space. Funnelling effects are common along pedestrian links and thoroughfares generally located between neighbouring buildings that have moderate gaps between them.

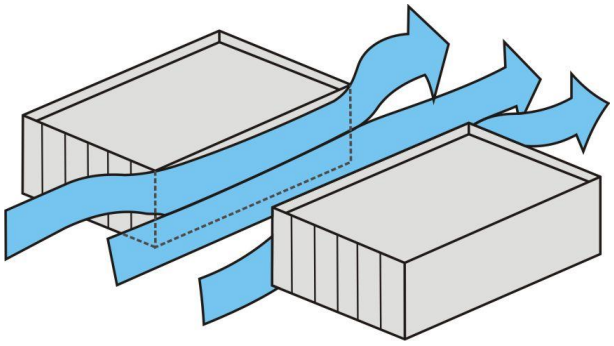

Figure A.2: Funnelling/Venturi Wind Effect

A.3 Gap Effect

The gap effect occurs in small openings in the façade that are open to wind on opposite faces, as seen in Figure A.3. This can involve a combination of funnelling and downwash effects. Presenting a small gap in the façade on the windward aspect as the easiest means through which the wind can flow through can result in wind acceleration through this gap. The pressure difference between the windward façade and the leeward façade also tends to exacerbate the wind flow through this gap.

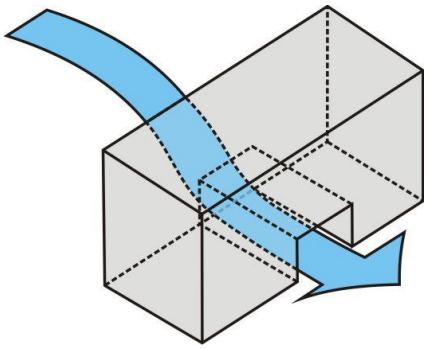

Figure A.3: Gap Wind Effect

A.4 Sidestream and Corner Effects

The sidestream effect is due to a gradual accumulation of wind shearing along the building façade that eventuates in an acceleration corner effect. The flow is parallel to the façade and can be exacerbated by downwash effects as well, or due to corner effect winds reattaching on the façade.

This is shown in Figure A.4. The corner refers to the acceleration of wind at the exterior vertical edge of a building, caused by the interaction of a large building massing with the incident wind, with the flow at the corner being accelerated due to high pressure differentials sets up between the windward façade and the orthogonal aspects. It can be further exacerbated by downwash effects that build up as the flow shears down the façade.

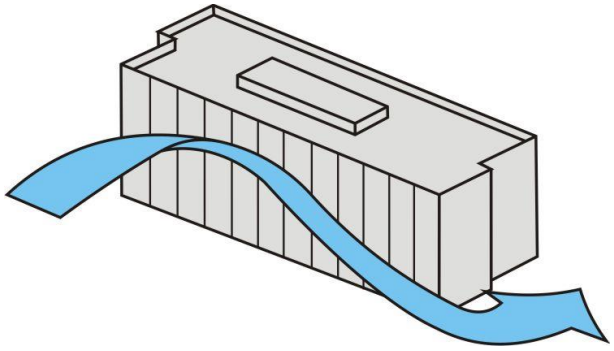

Figure A.4: Sidestream and Corner Wind Effect

A.5 Stagnation

Stagnation in a region refers to an area where the wind velocity is significantly reduced due to the effect of the flow being impeded by the bluff body. For a particular prevailing wind direction, this is typically located near the middle of the windward face of the building form or over a short distance in front of the windward face of a screen or fence. Concave building shapes tend to create an area of stagnation within the cavity, and wind speeds are generally low in these areas.

APPENDIX B DRAWINGS REFERENCED

Table B1: List of Architectural Drawings Referenced (Received November 28, 2025)

Drawing Number	Drawing Title	Issue	Date Issued
DA102	Lower Ground Floor Plan	P3	21/11/2025
DA103	Ground Floor Plan	P3	21/11/2025
DA104	Level 1 Plan	P3	21/11/2025
DA105	Level 2-6 Plan	P3	21/11/2025
DA106	Level 7 Plan	P3	21/11/2025
DA107	Level 8 Plan	P3	21/11/2025
DA108	Level 9 Plan	P3	21/11/2025
DA109	Level 10 Plan	P3	21/11/2025
DA110	Level 11 Plan	P3	21/11/2025
DA111	Level 12 Plan	P3	21/11/2025
DA112	Level 13 Plan	P3	21/11/2025
DA113	Level 14 Plan	P2	21/11/2025
DA114	Level 15 Plan	P2	21/11/2025
DA115	Roof Plan	P3	21/11/2025