

Doc Ref: WJ059-01F01 (rev2)- WE Memo
Date: April 9, 2025
To: MOCHA Sunshine Custodian Pty Ltd (ACN 653 281 371)
Address: Suite 2, Level 2, 51-65 Clarke Street, Southbank, VIC 3006
RE: 99 DERBY ROAD, SUNSHINE
WIND ENVIRONMENT MEMO

1. INTRODUCTION

This technical memo presents the wind environment assessment of an updated design for the central apartment buildings known as buildings B, C and D located at 99 Derby Road in Sunshine which consists of permit approved townhouses and apartments and a recently constructed hotel building.

MEL consultants have previously undertaken a desktop pedestrian wind environment assessment for the proposed development, as presented in the 'Environmental Wind Assessment' report issued in September 2022 (Report Ref: 121-22-DE-EWA-01, dated September 26, 2022). This report assessed the wind environment conditions for pedestrian trafficable areas within and around the subject development with reference to the relevant wind comfort and safety criteria (as detailed in Standard D17 Clause 58.04-4 of the **Planning and Environment Act 1987**). The assessment also included minor treatment measures to ameliorate potentially stronger wind conditions occurring within some outdoor trafficable areas.

Since the issuance of the above referenced report in September 2022, there are proposed design amendments isolated to buildings B, C and D as included within the architectural drawings received on August 26, 2024. Windtech have reviewed these changes in the context of the prevailing winds for the region, local building morphology, massing of the proposed development as well as the above referenced previous desktop assessment by MEL consultants.

2. REVIEW OF MEL CONSULTANT REPORT

Windtech agree with the assessment undertaken by MEL Consultants (Report Ref: 121-22-DE-EWA-01, dated September 26, 2022) on the proposed development, based on the prevailing winds for the Melbourne region, namely northerly, southerly, and westerly winds. We have also undertaken our own assessment of the subject site, based on which some additional wind mitigations measures (that are already shown in the architectural drawings) have been recommended to be retained in the final design.

Since the assessment undertaken by MEL Consultants in September 2022, the hotel located to the north-east corner of the Derby Road site has been constructed. This will affect the local wind conditions by providing additional shielding to the Buildings C & D from the prevailing northerly winds.

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3. DESIGN CHANGES

Based on the updated drawings received August 26, 2024, the following design changes have been observed in proposed design.

3.1 Increase in Height of Buildings B, C and D

The updated plan and elevations drawings show that the heights of the Buildings B, C and D have increased by 2 levels.

3.1.1 Ground Level

The increase in heights of Buildings B, C and D will increase the strength of the prevailing winds that down-wash off the northern, southern and western facades of these buildings very slightly. This slight increase in wind speeds is not expected to cause significant changes to the assessment undertaken by MEL consultants on the Ground Level (and the lower residential levels). In summary, MEL's report notes that the winds that downwash and/or side stream (and the resulting corner acceleration effects) off the various facades have been identified to cause wind conditions that are likely to be higher than the existing conditions around the site, however it is noted that these higher wind conditions are still expected to be within the relevant comfort and safety wind limits. Furthermore, it is noted that the positioning of the various buildings will contribute to the shielding of some prevailing winds from some of the buildings, and in cases where adverse wind conditions are expected, wind-break screening have been relied upon to provide suitable wind conditions (e.g. in the vicinity of main entrance to Building B). Windtech agrees with this assessment, and recommend that the measures proposed by MEL be included in the final design, although we recommend that some additional features that are already shown in the architectural drawings also be retained in the design to further improve the wind conditions. In summary, the following treatment measures are recommended to be included in the final design to ensure safe and comfortable wind conditions within around the proposed development:

- Retention of the proposed wind-break screens located to either side of the north facing main entrance to Building B. Note that these screens are to be oriented perpendicular to the northern façade to assist in breaking up the westerly winds that funnel through the walkway between Buildings B and D.
- Retention of the proposed fencing elements around the various private terrace areas.
- Retention of the proposed densely foliating evergreen trees and vegetation features within the 'Central Communal Open Space' located to the north of Building C and within the 'South-East Communal Open Space' located to the south-eastern corner of the masterplan. These trees and vegetation elements are expected to further improve the wind conditions within these spaces by reducing the intensity of the approaching prevailing winds.

If these 'Communal Open Spaces' are to consist of sitting areas, it is recommended the seats face away from the northerly winds, and the seats be designed with high backs (1.2m high impermeable or 30% porous backs, measured from the finished Ground Level).

With these recommended and proposed treatments incorporated into the design, it is expected that wind conditions will meet the safety criterion and achieve comfortable wind environment for walking in pedestrian footpaths and access ways; standing in main entrance areas; and sitting in seating areas.

3.1.2 Elevated Levels (Private Balconies and Terraces)

The majority of the balconies within the development are incorporated wind mitigation features such as being recessed into the building form, inclusion of intertenancy walls/screens as well as end walls for any balconies that protrude out of the main façade line. These features are recommended to be retained in the design.

It is expected that the magnitude of the wind speeds will be higher on the two additional levels (Levels 5 and 6). Any corner balconies exposed to the prevailing northerly, southerly, and westerly winds are expected to see slightly stronger wind conditions, although the updated design has removed most balconies from the corners. Furthermore, Buildings B and D does not have any corner balconies in the new design (including the additional 2 levels), while Level 6 of Building C consists of some outdoor terraces facing the south on the southern façade.

The following treatment measures are recommended to be included in the final design to ensure safe and comfortable wind conditions within the various private balconies within the development:

- Retention of the proposed intertenancy walls/screens for various mid-façade balconies throughout the development.
- Retention of the proposed intertenancy walls/screens between balconies of adjoining units to avoid the occurrence of wind tunnels in outdoor spaces.
- Retention of the proposed end screens along the shorter edges of any balconies that protrude out of the main façade line. This applies primarily for the west facing balcony of Unit 01 at each elevated level of Building D.
- Inclusion of 1.2m high impermeable or porous (max 30%) balustrades along the western boundary of the south facing balconies at Level 6 of Building C.

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4. CONCLUDING REMARKS

With the inclusion 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 remain suitable for their intended uses, and that the wind speeds will satisfy the applicable criteria for pedestrian safety and comfort for sitting, standing and walking in accordance with Standard D17 (Clause 58.04-4) with the proposed increased height of Buildings B, C and D.

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APPENDIX A – LIST OF ARCHITECTURAL DRAWINGS

Table A1: List of Architectural Drawings Referenced for the Assessment Presented in this Report

Drawing Number	Issue	Received
TP00-20	-	26/08/2024
TP00-21	-	26/08/2024
TP00-22	-	26/08/2024
TP00-23	-	26/08/2024
TP00-24	-	26/08/2024
TP00-25	-	26/08/2024
TP00-26	-	26/08/2024
TP00-27	-	26/08/2024
TP01-00	-	26/08/2024
TP01-01	-	26/08/2024
TP01-02	-	26/08/2024
TP01-03	-	26/08/2024
TP01-04	-	26/08/2024
TP01-05	-	26/08/2024
TP01-06	-	26/08/2024
TP01-07	-	26/08/2024
TP01-08	-	26/08/2024
TP01-09	-	26/08/2024
TP01-10	-	26/08/2024
TP01-11	-	26/08/2024
TP01-12	-	26/08/2024
TP01-13	-	26/08/2024
TP01-14	-	26/08/2024
TP01-15	-	26/08/2024
TP01-16	-	26/08/2024
TP01-17	-	26/08/2024
TP01-18	-	26/08/2024
TP01-19	-	26/08/2024

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Date	Revision History	Issued Revision	Prepared By (initials)	Instructed By (initials)	Reviewed & Authorised by (initials)
September 12, 2024	Initial.	0	AFM	SL	SL/AFM
September 25, 2024	Minor Edits.	1	AFM	SL	AFM
April 9, 2025	Minor Edits.	2	SL	SL	AFM

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