

173 BURKE ROAD, GLEN IRIS

ENVIRONMENTAL WIND ASSESSMENT

**By
M. Eaddy**

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PLAN**

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Report 23111A-DE-EWA00



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1. INTRODUCTION

The proposed development at 173 Burke Road, Glen Iris, will be a four level (18.45m) mixed used development. The ground level will have retail and a food and beverage tenancies and the upper levels will be residential apartments. The location of the development is highlighted in Figure 1.

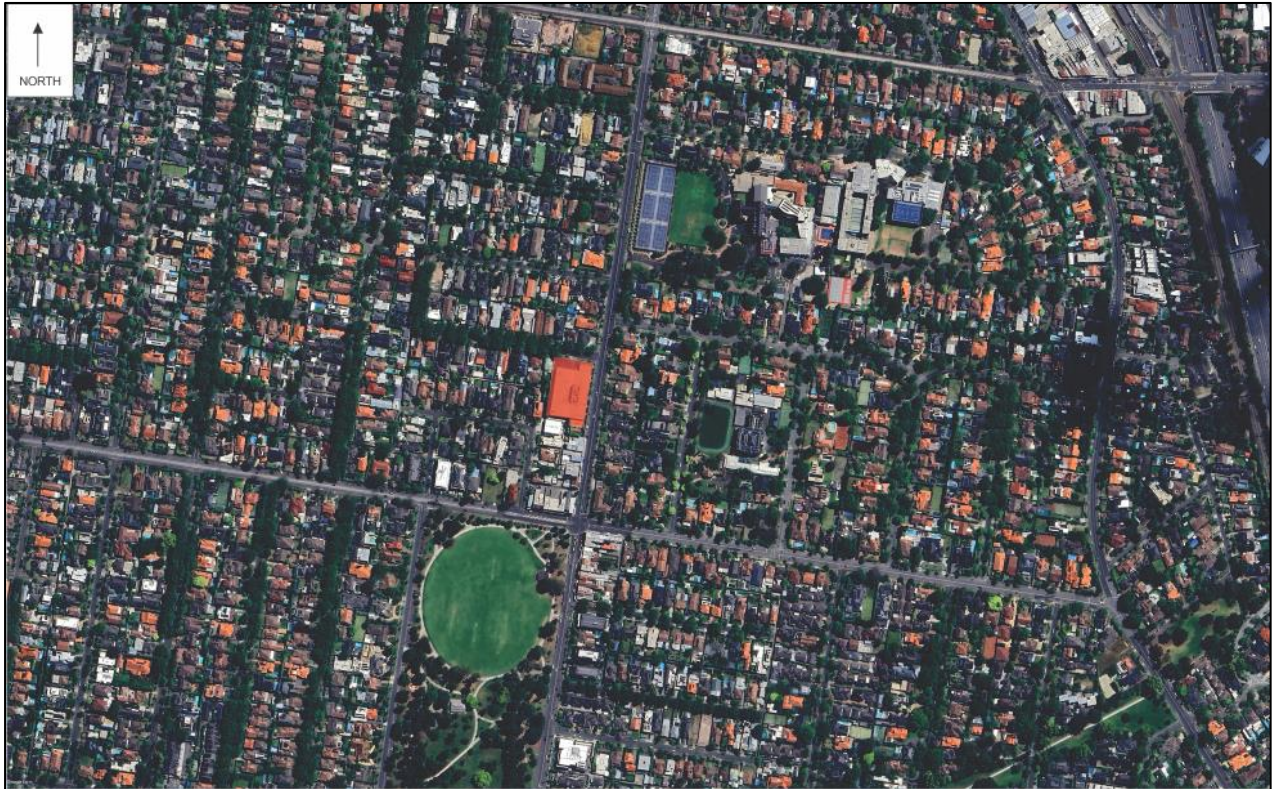


Figure 1: Location of the proposed 173 Burke Road Development, Glen Iris (highlighted in red) [Google]

This assessment was commissioned by Time and Place and is based on a review of drawings prepared by Cera Stribley listed in Appendix A and only considers 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 wind tunnel study has been undertaken for this study.

2. THE DEVELOPMENT

The 173 Burke Road Development will be a 4 level (18.45m high) mixed used development on the corner of Burke Road and Hope Street, Glen Iris. The ground floor (Figure 2) will have retail tenancies and the residential lobby. The entrances to the retail tenancies and residential lobby have been highlighted in Figure 2 and are located along the Burke Road frontage and at the northeast corner. The entrance at the northeast corner is setback into the building and the door faces towards the east.

The upper levels of the development will be residential apartments and are presented in Figures 3 to 6. The upper levels of the building setback from the site boundaries, levels 01 and 02 setback from the south and west site boundaries and there are no setbacks from the north and east site boundaries. Levels 03 and 04 will be setback from all site boundaries, with large setbacks from the south and west site boundaries. For some apartments the setbacks have be utilised for private outdoor terraces.

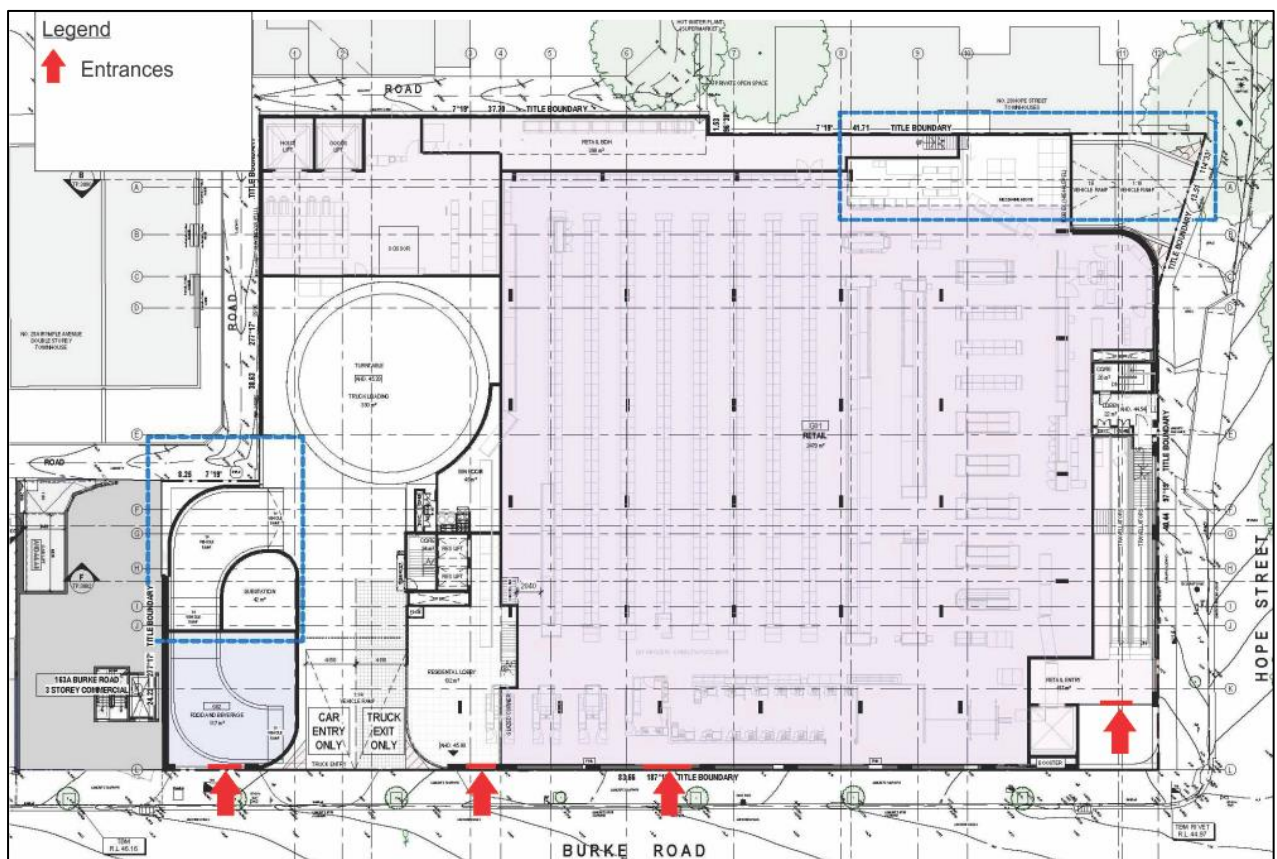


Figure 2: Ground Floor

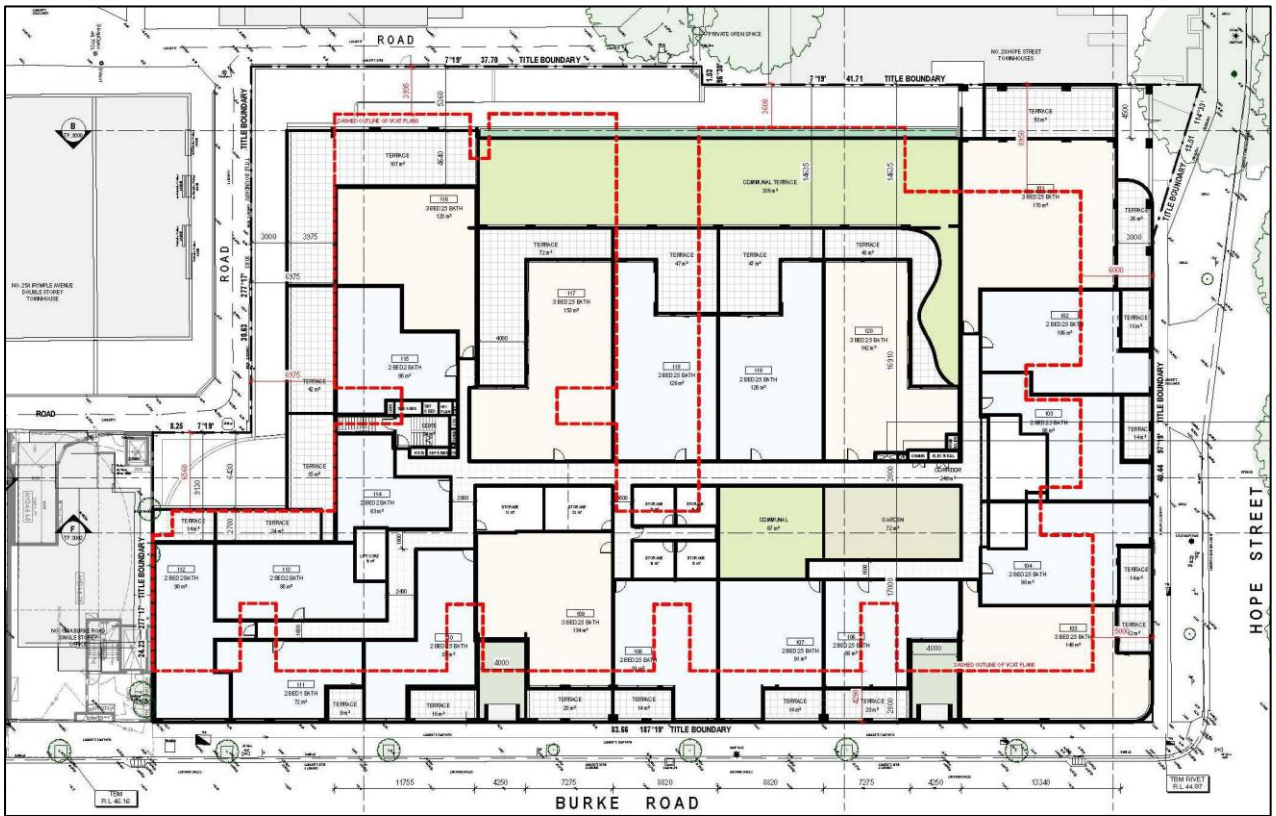


Figure 3: Level 01

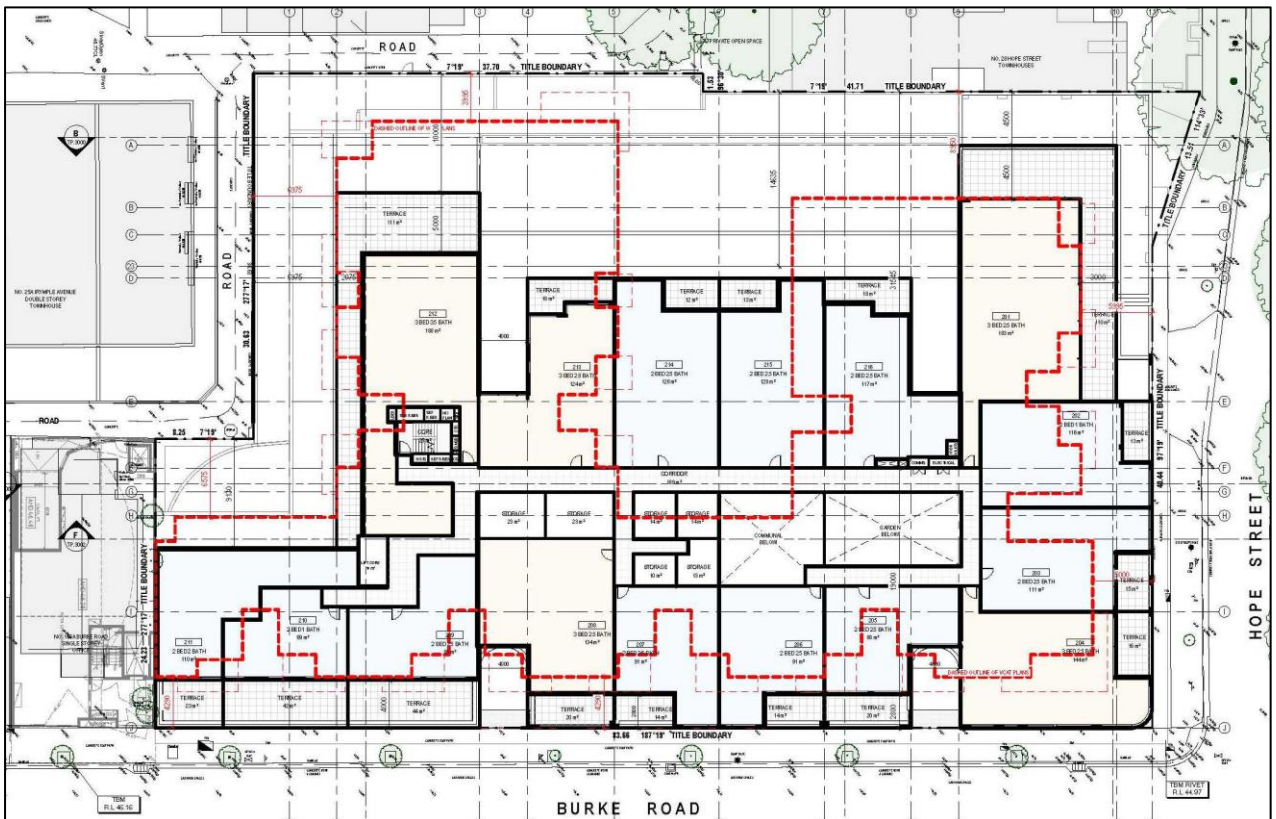


Figure 4: Level 02

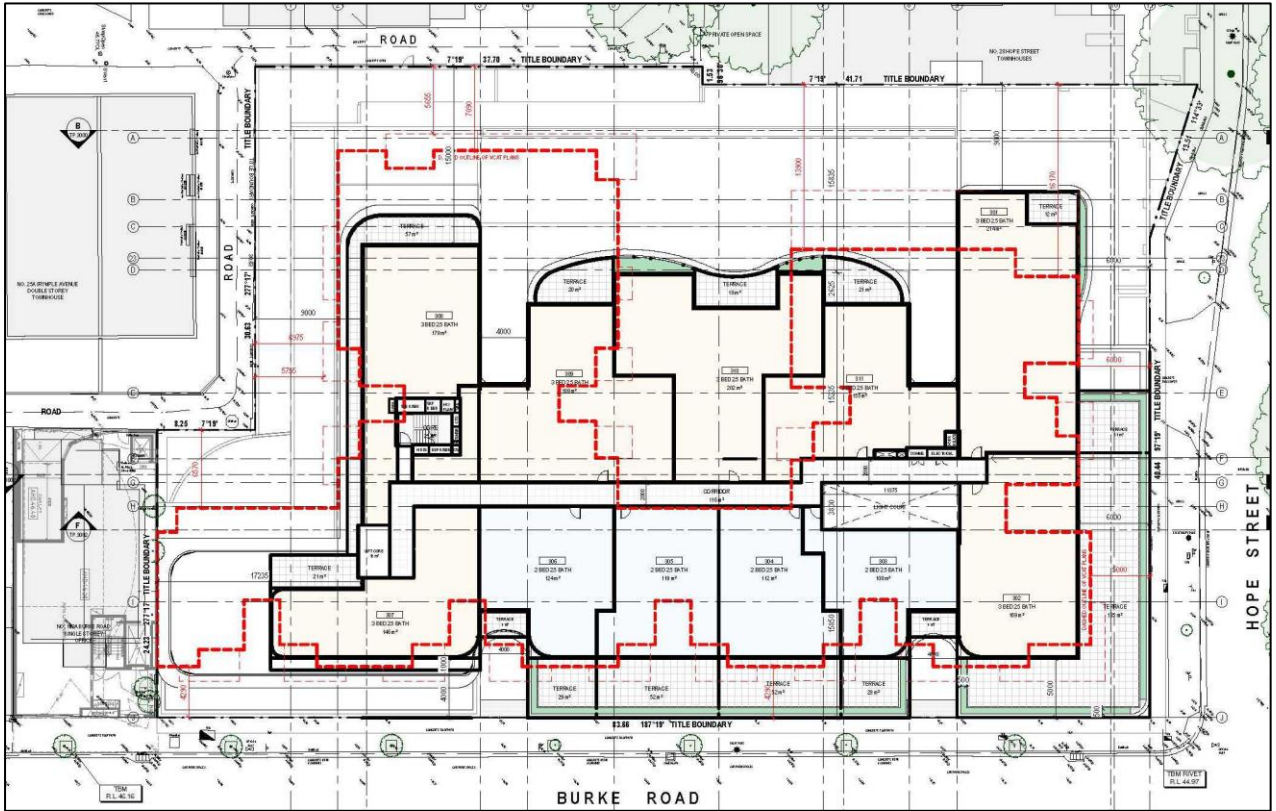


Figure 5: Level 03

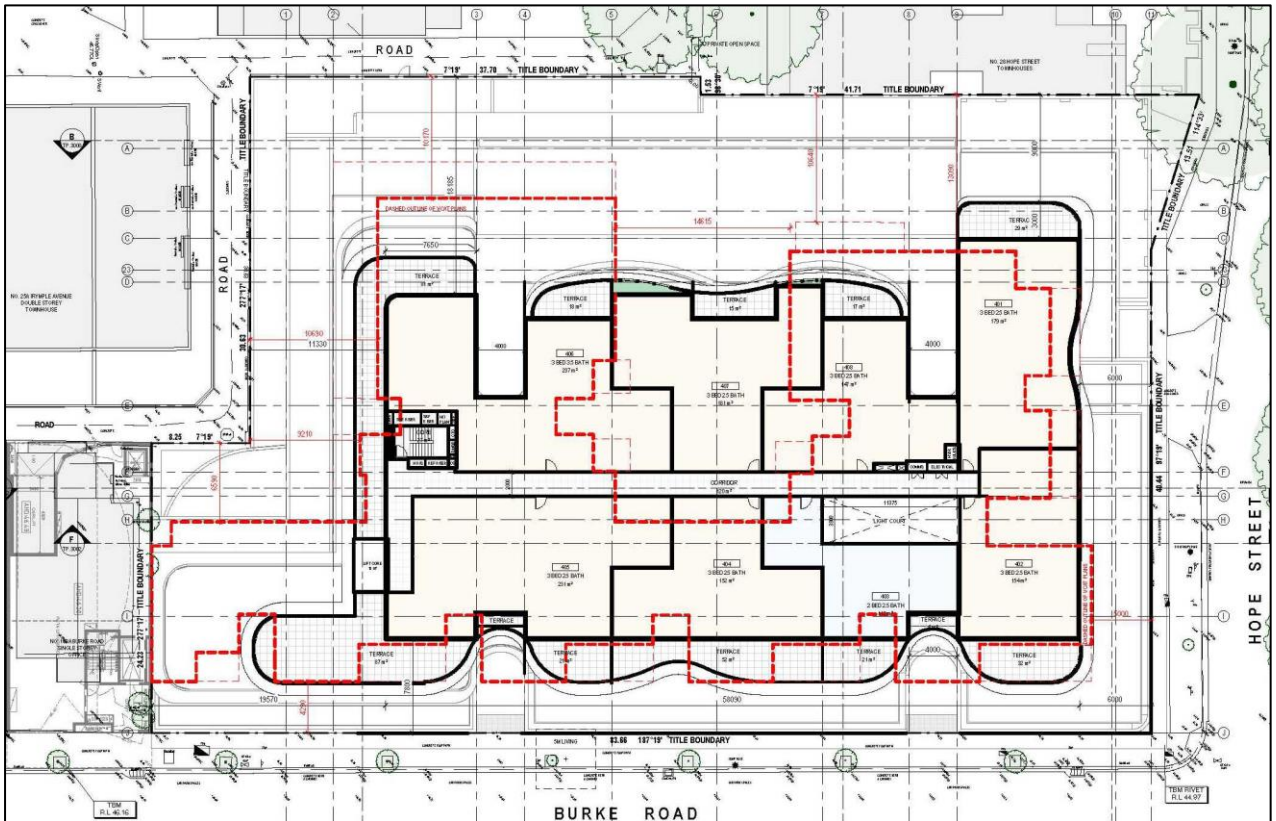


Figure 6: Level 04

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.

The 173 Burke Road development site will be surrounded by typical suburban housing for all directions and two level commercial buildings to the south around the intersection of Burke and Wattleree Roads. On the south side of the Wattleree Road is the open oval of Central Park and the south area of the park has large trees. The topography of the surrounding land are gentle slopes, which would have little impact on the approaching wind flow.

4. ASSESSMENT CRITERIA

The Stonnington Planning Scheme defines the following wind safety and comfort criteria for apartment development in Clause 58.04-4 Standard D17. These criteria are defined as follows:

Unsafe wind conditions mean the hourly maximum 3 second gust which exceeds 20 metres/second from any wind direction considering at least 16 wind directions with the corresponding probability of exceedance percentage.

Comfortable wind conditions A 'mean wind speed' from all wind directions combined with a probability of exceedance less than 20% of the time, equal to or less than:

- 3 metres/second for sitting areas
- 4 metres/second for standing areas
- 5 metres/second for walking areas

Mean wind speed means the maximum of:

- Hourly mean wind speed, or
- Gust equivalent mean wind speed (3 second gust wind speed divided by 1.85)

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.

5. WIND ASSESSMENT

The design of the proposed development includes positive design features that would assist with reducing the wind effects. The most significant of these features is the setback of the upper levels of the development that will assist with deflecting wind up and around the development instead of into the surrounding streetscapes.

The wind conditions along Burke Road would be influenced by the northerly winds deflected around the northeast corner of the building. The east sector wind directions are relative light and infrequent and would be expected to cause little significant downwash wind flow from the east face of the building into Burke Road. The south sector winds approach over the commercial buildings and would be expected to cause little significant additional wind effects along Burke Road. Therefore, overall wind conditions along Burke Road would satisfy the walking comfort criterion, which would be similar to the existing wind conditions.

Three of the four building entrances are located along the Burke Road face; Food and Beverage tenancy, Residential Lobby, and Retail tenancy. The wind conditions outside these entrances would be expected to satisfy the standing comfort criterion. The Retail tenancy entrance at the northeast corner would be exposed to the northerly winds accelerating around the building corner. However, the design has recessed the entrance and the door is east facing and the wind conditions immediately outside the door would be expected to also satisfy the standing comfort criterion.

The apartment private terraces are located on all faces of the building and either are located on the setbacks or recessed into the building faces. Terraces that are recessed into the building faces and away from building corners have better wind conditions compared to terraces that protrude or are located around the corners of buildings. The wind conditions on all the private terraces would be expected to satisfy the walking comfort criterion. The recessed terraces located away from the building corners would be expected to satisfy the sitting and standing comfort criteria.

The communal terrace is located on the west side of level 01 and surrounded by the building on three sides. The main exposure would be to the west sector wind directions

and the wind conditions on the communal terrace would be expected to satisfy the standing comfort criterion.

6. CONCLUSIONS

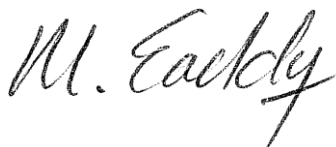
We have assessed the likely environmental wind conditions in the streetscapes surrounding the proposed 173 Burke Road Development, Glen Iris, detailed in drawings by Cera Stribley listed in Appendix A

It has been assessed that the wind conditions in the streetscapes that surround the development would satisfy the walking criterion and pedestrian safety criterion. The wind conditions outside the building entrances would be expected to satisfy the standing comfort criterion.

The wind conditions on all the private terraces would be expected to satisfy the walking comfort criterion. The wind conditions on terraces that are recessed into the building faces and located away from building corners would be expected to satisfy the sitting and standing comfort criteria.

The wind conditions on the level 01 communal terrace would be expected to satisfy the standing comfort criterion.

No modifications are recommended to the development.



M. Eaddy
MEL Consultants Pty Ltd
3 October 2023

Appendix A – Drawing Register

Drawing #	Rev	Date	Title
TP.1090	-	-	Basement 03 Plan
TP.1091	-	-	Basement 02 Plan
TP.1092	-	-	Basement 01 Plan
TP.1100	-	-	Ground Floor Plan
TP.1101	-	-	Level 01 Plan
TP.1102	-	-	Level 02 Plan
TP.1103	-	-	Level 03 Plan
TP.1104	-	-	Level 04 Plan
TP.1110	-	-	Roof Plan
TP.3000	-	-	Sections A & B
TP.3001	-	-	Sections C & D
TP.3002	-	-	Sections E & F

Note:

173BR Plans.PDF received 6 September 2023

23076_173 Burke Rd_Building File_230901.3dm received 6 September 2023

23076-173-Burke Rd-WIP Plans-230926 4.pdf [ground floor] received 28 September 2023