22 CLEELAND ROAD SOUTH OAKLEIGH VIC 3167 AUSTRALIA



(ACN 004 230 013)

Ref: 64-18-DE-REV-01

21st March 2019

City of Yarra PO Box 168 Richmond VIC 3121

Attn: Amy Hodgen Coordinator – Statutory Planning

Dear Amy,

Village Alphington, Alphington Review of Vipac Pedestrian Wind Tunnel Study Vipac Document Number: 30N-18-0136-TNT-6752950-0

The review of the Vipac Wind Tunnel Test Report for the Village Alphington Development, Alphington, is based on our experience of wind flow around buildings and structures. This experience has been developed from more than 40 years of desktop, wind tunnel, and full scale studies of environmental wind conditions in urban and sub-urban areas. No wind tunnel studies have been undertaken to support the review. Our comments are as follows:

- This is an updated wind tunnel study report prepared by Vipac for the subject development. Reference is made back to MEL Consultants review dated 9th May 2018 where it was stated that we have no issues with the wind tunnel modelling techniques used for the study.
- A planning permit has been issued for the development with Condition 13 relating to the Wind Assessment Report.

Vipac provide recommended criteria for the intend activation of the streetscapes in Section 3.1 in Table 5 and diagrammatically in Figures 8 to 12 for the lower ground level, ground level, level 1, level 3, and Level 4. We have no issue with these recommended criteria for the various locations around the development site. We have summarised the criteria recommended by Vipac in Section 3.1 of the report in Table 1 of this document. We note that the information in Appendix A of the Vipac report lists recommended criteria for each Location examined and this has also been summarised in Table 1 and the colours highlight the compliance and non-compliance with the recommended criteria. If these two recommended criteria are compared, there are differences of the recommended criteria at a number of Locations (e.g. 13, 14, 18,19). It will be assumed that the recommended criteria in Appendix A takes precedence.

Section 3.1.1 of the report discusses the rationale behind the recommendation of using the walking criterion for the apartment balcony/terraces and outdoor amenity areas, and we have no issue with the use of the walking criterion as the recommended criterion for these locations.

However, advice from the City of Yarra has informed MEL Consultants that the Level 1 public terrace is intended to be used for outdoor sitting areas associated with the F&B tenancy on this level. If this is the case, then the outdoor sitting area on the terrace would be recommended to achieve the sitting criterion rather than the walking criterion. The sitting criterion in these locations is in line with the Vipac recommendation for other outdoor seating areas, such as location 16. Additionally, the terrace at Level 4 has been identified as a childcare outdoor play area. As this is appears to be the only outdoor play area for the children it would be recommended that the standing and sitting criteria, depending on the activity at a specific location on the terrace, be achieved rather than the walking criterion. This would be expected to improve the utilisation of the terrace for the children.

• Section 6.1 describes the two configurations studied for the assessment of the environmental wind conditions. Configuration 1, which MEL Consultants would

suggest is the most relevant for assessing the wind impact of the proposed development, has modelled the proposed development with the existing surrounding buildings. Configuration 2 has modelled the proposed development with the possible future buildings expected in the next 5 years and is useful for knowledge of future building interactions. Given some of the future developments will be part of the development precinct, clarification from the City of Yarra would be necessary to determine which configuration needs to achieve compliance with the proposed wind comfort criteria. Reviewing these data in the report there still appears to be a mixed reliance of Configurations 1 or 2 to demonstrate compliance with the recommended wind comfort criteria.

- The report investigates wind mitigation controls for a number of locations as follows:
 - o The Mews

The City of Yarra has informed MEL Consultants that The Mews will be an important pedestrian link through the precinct. The wind conditions at Location 2 have not been shown to comply with the walking criterion for either configuration. Vipac have stated that the wind conditions were caused by the entire massing of the proposed development and cannot be mitigated. They further suggest relaxing the target criterion to fast walking due to the low number of exceedances in Configuration 2. The exceedances would be expected to be higher for Configuration 1. The issued permit states the walking criterion is the minimum acceptable criterion.

MEL Consultants would query Location 3, where there is compliance for Configuration 1 but not for Configuration 2. Vipac have demonstrated that the wind conditions for Configurations would be improved by setting the entrance into the building by >1m, but it is not clear whether the sensor for Location 3 was shifted into the recess as the photographs and diagram suggest it was not moved. If it was not moved then MEL Consultants do not understand the demonstrated improvement of the wind conditions at Location 3.

- Vipac have noted that Location 31 does not comply for either Configuration but the wind conditions should be mitigated by the proposed adjacent developments. This appears to be shifting the wind issues to another development site and for Configuration 1 the wind conditions have been shown to exceed the recommended criterion, particularly for the north winds, which the future development massing model has been demonstrated to not mitigate. Again, as noted earlier, there appears to be confusion as to whether compliance is demonstrated by either Configuration 1 or 2.
- Location 1 does not show compliance with either Configuration. As noted for earlier, there is confusion as to whether compliance is demonstrated by either Configuration 1 or 2.
- We agree with the Vipac conclusions that the proposed development would not cause wind conditions to exceed the safety criterion.

In summary, we have no issue with the modelling and methodology of the Vipac wind tunnel study. This work has been carried out as would be expected for an environmental wind assessment of a proposed development's wind impact. However, we do have a number of issues with the data in the report, which have been highlighted, and thus cannot support the recommendation and conclusions by Vipac. We suggest further wind tunnel testing be undertaken to provide the following information to allow further assessment of the development:

- The City of Yarra to inform the developer as to the Configuration that needs to be shown to comply with the recommended pedestrian comfort criteria. At the moment both configurations studied are being used to show compliance at some of the study locations.
- The permit condition states that the minimum acceptable criterion is walking. This needs to be demonstrated at all locations.
- The recommended criteria should give consideration of the outdoor seating area on the Level 1 public terrace and require the sitting criterion. Additionally, it has

been suggested that the recommended criteria for the Level 4 childcare outdoor play area should be standing and sitting criteria.

Yours sincerely,

M. Eackly

M. Eaddy MEL Consultants Pty Ltd

Location	Section 3.1 Recommended Criteria	Appendix A Recommended Criteria	Existing Config	Proposed Config 1	Proposed Config 2	WMC/Comment	
1		Walking	Walking	Above Walking	Above Walking		
2	Walking	Walking	Walking	Above Walking	Above Walking		
3	Standing	Standing		Walking	Above Walking	Standing (Config 2)	
4	Standing	Standing		Walking (marginal)	Standing		
5	Standing	Standing	Walking	Standing	Standing		
6	Standing	Standing	Walking	Walking	Standing	Config 1 - not worse than Exisiting	
7	Walking	Walking	Walking	Above Walking	Walking		
0	Walking	Walking		Walking	Walking		
	Walking			(marginal)	(marginal)		
9	Walking	Walking	Above Walking	Walking	Standing		
10	Walking	Standing		Walking	Sitting		
11	Walking	Standing	Walking	Standing	Sitting		
12	Walking	Walking	Walking	Walking	Walking		
13	Walking	Standing	Walking	Standing (marginal)	Sitting	Better than Existing for higher wind directions	
14	Walking	Standing	Walking	Standing	Standing		
15	Standing	Standing	Above Walking	Sitting	Sitting	Better than Existing	
16	Sitting	Sitting	Standing	Walking	Above Walking	Sitting (Config 2) / expect similar mitigation for Config 1	
17	Standing	Standing		Sitting	Sitting		
18	Standing	Sitting	Walking	Standing	Sitting		
19	Standing	Sitting	Walking	Standing	Sitting		
20	Walking	Walking	Above Walking	Walking	Walking		
21	Standing	Standing	Walking	Standing	Above Walking	Sitting (Config 2)	
22	Walking	Walking	Walking	Walking	Walking		
23	Walking	Walking	Above Walking	Walking	Walking		
24	Standing	Standing	Standing	Walking	Standing		
25	Walking	Walking		Standing	Standing		
26	Walking	Walking	Walking	Walking	Walking		
27	Walking	Walking		Sitting	Walking		

Table 1: Summary of Applicable/Recommended Criteria and Criteria Achieved

Location	Section 3.1 Recommended Criteria	Appendix A Recommended Criteria	Existing Config	Proposed Config 1	Proposed Config 2	WMC/Comment
28	Standing	Standing		Standing	Standing	
29	Walking	Walking		Above Walking	Above Walking	Walking (Config 2)
30	Walking	Walking		Walking	Walking	
31	Walking	Walking		Above Walking	Above Walking	
32	Walking	Walking		Walking (marginal)	Walking (marginal)	
33	Walking	Walking		Walking	Standing	
34	Walking	Walking		Walking	Walking	
35	Walking	Walking	Walking	Above Walking	Walking	
36	Walking	Walking		Above walking	Above Walking	
37		Walking		Above Walking	Standing	
38		Walking		Walking	Sitting	
39		Walking		Above Walking	Standing	
40		Walking		Above Walking	Sitting	
41		Walking		Standing (marginal)	Standing	
42		Walking		Walking	Walking	
43		Walking		Above Walking	Walking	
44		Walking		Above Walking	Walking	
45		Walking	Above Walking	Above Walking	Above Walking	Config 2 - Higher than Existing
46		Walking		Sitting	Walking	
47		Walking		Standing	Standing	
48		Walking	Above Walking	Above Walking	Walking	
49		Walking	Walking	Sitting	Walking	
50		Walking		Walking	Walking	
51	Walking	Standing		Standing	Standing	
52	Walking	Walking		Above Walking	Walking	Standing (Config 2) / expect similar mitigation for Config 1
53	Walking	Walking		Walking	Walking	Childcare Terrace
54	Walking	Walking		Walking	Walking	Childcare Terrace
55	Walking	Walking		Walking	Standing	Childcare Terrace

Location	Section 3.1 Recommended Criteria	Appendix A Recommended Criteria	Existing Config	Proposed Config 1	Proposed Config 2	WMC/Comment
56	Walking	Walking		Walking	Sitting	
57	Walking	Walking		Walking	Walking	Walking (Config 2)
58	Walking	Walking		Above Walking	Walking	Walking (Config 1)
59	Walking	Walking		Above Walking	Walking	
60	Walking	Walking		Walking	Walking	
61	Walking	Walking		Sitting	Sitting	
62	Walking	Walking		Above Walking	Walking	Walking (Config 1)
63	Walking	Walking		Above Walking	Walking	Walking (Config 1)
64	Walking	Walking		Above walking	Walking	Walking (Config 1)