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AUSTRALIA

MEL
CONSULTANTS

(ACN 004 230 013)

Ref: 186-21-DE-REV-00

9 December 2021

City of Yarra
PO Box 168
Richmond VIC 3121

Attn: Mary Osman

Dear Mary,

147-161 Elizabeth Street, Richmond
Review of Vipac Wind Impact Assessment
Vipac Document Number: 30N-21-0489-TNT-23111-1 dated 12 November 2021

The review of the Vipac Wind Impact Statement is based on MEL Consultants' experience of wind flow around buildings and structures. This experience has been developed from a company experience of more than 50 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:

- The Vipac Wind Impact Assessment has been prepared based on the experience of the consultancy and no wind tunnel testing by Vipac has been carried out to support the report. MEL Consultants have no issue with this approach for a desktop study as this is a common approach to provide architects, developers, and responsible authorities advice on the wind effects of the design.

- MEL Consultants have no issue with the Analysis Approach, Site Exposure, and Regional Wind Climate that have been used as the basis for the assessment. Vipac has clearly identified the process for the desktop assessment and this is consistent with the approach that MEL Consultants would take to prepare a desktop wind impact assessment. A clear description of the 147-161 Elizabeth

Street, Richmond, development has been provided along with reference drawings which are listed in the Appendix of the report.

- The pedestrian safety and comfort criteria are the Capital City Zone and upcoming Better Apartment Design Standards and MEL Consultants have no issue with these criteria The recommended criteria for the immediate surroundings streetscapes would be walking comfort and the standing criteria for the entrances to the building. The assessment clearly discusses the rationale for recommending the walking criterion for the terraces and there is no issue with this recommendation.

- The Vipac desktop assessment identifies the approximately 6 level development on the north side of Williams Court and other buildings to the east would provide shielding for the northeast and east wind directions and MEL Consultants agree with the assessment of the shielding. We also agree it would have exposure to the southwest wind direction and, as Figure 9 indicates, the northerly wind directions around the west end of the building to the north. Vipac have identified that there will be adverse wind conditions at a number of locations, but have missed the north and south wind flow between Buildings B1 and B2. This narrow gap between the building would be expected to accelerate the wind flow and create adverse wind conditions in the area and adjacent to the entrance Vipac identified in Figure 8. Vipac's expectation of the walking comfort criterion in the public areas would be reasonable due to the comfort criteria being based on average tolerable wind conditions. We agree the wind flow within the development is complex and should be investigated by a wind tunnel model study, but we recommend the study should not be delayed until the Detailed Design stage of the development. The significant number of locations of concern identified by Vipac and the likely expectation of better than walking comfort wind conditions in the central courtyard, indicates the project should be wind tunnel tested during the planning stage.

- Vipac have noted that the ground floor is very open and porous allowing air movement throughout the development. They further note the proposed features and air-locks at the southern and eastern entrances. Vipac assess the

wind to pass through these openings in excessive for residents to feel unreasonably uncomfortable, but have not assessed the wind conditions against a comfort criterion. The air-locks use sliding style doors that have a separation of approximately 3m, which would be expected to cause the air-lock doors to be open simultaneously as pedestrians transit the area. The simultaneous opening of the air-lock doors results in the air-lock being ineffective for mitigating wind flow through the entrances. Therefore, MEL Consultants would be concerned that the wind conditions would not satisfy the standing criterion that would be targeted for lobby/entrance areas.

- Vipac have assessed the wind conditions on the private balconies as satisfying the walking comfort criterion. MEL Consultants have no issue with this assessment. This assessment should be confirmed

In conclusion, the Vipac Wind Impact Assessment has been prepared based on the consultant's experience of wind flow around buildings and structures. We have no issues with the Analysis Approach, Site Exposure, Regional Wind Climate, and description of the development used in the preparation of the assessment. This is consistent with the approach MEL Consultants would take to prepare a similar desktop environmental wind assessment. Vipac have identified a number of locations that may have high wind conditions, but would still satisfy the walking comfort criterion. A significant number of locations of concern have been identified by Vipac and along with the suggestion of a requirement of wind conditions better than walking comfort wind conditions in the central courtyard. Therefore, it is recommended that the project should be wind tunnel tested during the planning stage.

Yours sincerely,

M. Eaddy

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MEL Consultants Pty Ltd