



Date: March 17, 2021

Reference: WA567-42F01(rev6)- R5 S4.55 Mod WE Response Letter.docx

Department of Planning, Industry and Environment
4 Parramatta Square, 12 Darcy Street
Parramatta NSW 2150

**RE: BUILDING R5 BARANGAROO SOUTH, SECTION 4.55 MODIFICATION
WIND IMPACT REVIEW RESPONSE**

Dear Ms Sir/ Madam,

This Pedestrian Wind Environment letter provides a review of the latest proposed modification for Building R5 in the Barangaroo South development, based on the latest drawings prepared by Renzo Piano Building Workshop, project design architects, dated 12 March, 2021.

Windtech Consultants have previously undertaken detailed wind tunnel testing for the original design in November 2015 (Report Ref: WA567-11F03(Rev 4)) and subsequently updated to reflect an updated ground floor podium and landscape plan in September 2018 (Report Ref: WA567-11F03(Rev 7)).

This report was prepared to assess the wind environment conditions within and around the subject development with reference to both wind comfort and safety. This above reporting was included in the initial Development Application submission and was based on a previous design development. Since the time of the initial DA submission and approval, the design has been further developed.

Noting that the updated DA scheme shares very similar massing and form to the model tested during the previous wind tunnel study. Windtech have reviewed the latest amended architectural plans documentation (dated:12th March 2021) and the design changes to the proposed development include:

- Pairing back of the podium South Western aspect footprint and reduction in size of the podium cut-in at the Western Lobby entry.
- Further chamfering of the Northern podium corner.
- Minor form modifications to the building South Western aspect for the typical building levels.
- Minor façade step-out on the North Western building aspect for the typical building levels.
- Increased size of the Level 26 South Eastern corner communal terrace.
- Inclusion of an awning at the Level P2 terrace.

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A review of the design changes indicates that the trafficable areas within and around Building R5 are expected to experience similar wind conditions to those outlined within Windtech's previous DA reporting for Building R5. As such, the wind mitigation treatments recommended within Windtech's previous reporting will still be applicable to the proposed modification. These recommended treatments include the following:

- Inclusion of strategic tree planting as outlined in the landscape design report prepared by Grant associates in August 28, 2018.
- The inclusion of portable café screening on the North Western aspect of Building R5 to be controlled by the retail operators as required.

It should be noted that the strategic planting was tested as part of the initial Wind Tunnel testing to confirm the effectiveness of this landscaping in improving wind conditions within and around the Tower R5 proposed building and adjacent areas of the One Sydney Harbour development site. Furthermore, it has been recommended that the trees selected to be included within the final design scheme are of a sturdy densely foliating variety. These plants should also be installed in a semi-mature to mature state as early as possible into the site works to allow these trees to become sufficiently established before the completion of the various One Sydney Harbour towers. Appropriate anchoring should also be utilised whilst the trees establish if applicable for the tree size. It is Windtech's understanding that the majority of these trees either have been or are in the process of being installed as part of the overall site wide public realm works.

With respect to the Level 2 Podium roof terrace, the awning proposed for the Level P2 terrace is expected to assist in reducing any adverse wind effects experienced from the southerly winds downwashing from the building form and impacting the podium roof terrace. Based on the current design and previous wind tunnel testing, it is expected that this Podium roof area will not experience any exceedances of the Safety limit criteria. Further wind tunnel testing will be undertaken throughout the design development stages of work to ensure that an appropriate level of wind comfort is met for this podium roof area once the usage of this area is further documented on receipt of an approval to the proposed modification. The Level 26 communal sky terrace is well protected from the prevailing winds with the inclusion of the proposed high parapet screening.

With the inclusion of the recommended wind mitigation treatments from Windtech's previous reporting, it is expected that all areas within and around the subject development will experience suitable wind comfort and safety conditions for the intended uses of those areas.

Regards,



Simon Ronald (Associate Director)
Windtech Consultants Pty Ltd