



MEMORANDUM

DATE:

25 November 2022

RWDI REFERENCE #: 1902973

TO:

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RE:

Response To Submissions

Toga Central

Western Gateway Sub-Precinct Block C

It is understood that City of Sydney (CoS) has provided advice on the Environmental Impact Statement submitted by Toga Development and Construction for the Toga Central development (SSD 33258337) located at 2-8A Lee Street in Haymarket, NSW. Response to Submissions have also been received by the Department of Planning and Environment (DPE) in October 2022. This memo has been prepared in response to the advice by CoS (Ref: R/2022/15 - dated 30 September 2022) and DPE (Ref: SSD-33258337 EF21/18415 - dated 28 October 2022) regarding the local wind environment. Additional commentary has also been provided to address the concerns raised by Central Place Sydney in a separate letter dated 4 October 2022. Reference will be made to the wind tunnel test study (Wind Report) for the precinct by RWDI (Ref: RWDI 1902973, dated 26 July 2022).

CoS Comments and Response

The CoS has noted that *"reliance on landscaping on the podium, tower and rooftop levels to mitigate winds is not supported, as trees and landscape on upper levels that are wind impacted can fail and are difficult to replace post construction"*. The following recommendations have been provided by CoS:

1. *Wind mitigation methods must not rely on trees and landscape. If wind mitigation measures are required, this is to be integrated into the building design and further wind tunnel testing is to be provided.*
2. *The tower awning is to be designed having regard to the landscape design.*

Upper-Level Amenity

RWDI notes in the Wind Report (Section 3.2.1.5 Elevated Level Amenity and Figure B-2 and D-2 in Figures) that wind conditions are suitable for passive use at all upper-level locations (podium and Level 21). The single walking use condition noted atop the podium corresponds to a glazed roof section and is not accessible. Wind comfort conditions are shown in Image 1 below.

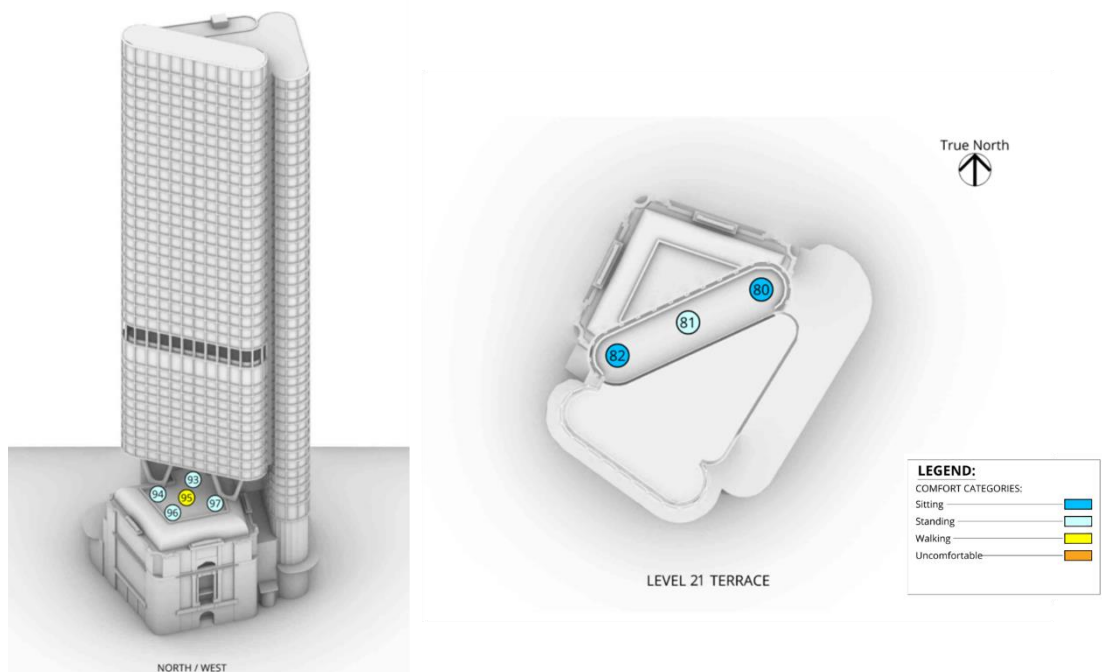


Image 1: Wind Comfort Conditions within Upper Levels of Toga Central

Reliance on Landscaping

In response to the recommendations, RWDI confirms that the design achieves minimum compliance around the precinct without reliance on landscaping. Wind tunnel testing was carried out without the inclusion of any landscaping elements within or around the site. Compliance with the Western Gateway Design Guide is demonstrated in Section 3.3 of the Wind Report. It is noted that all areas are within the stipulated wind comfort criteria with wind impacts due to the development on public domain not exceeding the Wind Comfort Standard criteria for sitting, standing, and walking use at any location based on the intended use of these areas. Areas outside the Sub-Precinct C achieve the minimum required criteria of walking at all locations with conditions within the Central Station Forecourt to the north suitable for passive use, as required. Wind conditions within the Railway Square are also suitable for passive use with an area of approximately 200 sqm suitable for sitting use, as stipulated by the Western Gateway Design Guide. **The Wind Report only discusses landscaping as a mitigation method in the context of providing enhanced comfort around the precinct beyond the stipulated walking comfort criteria within and around Sub-Precinct C.**

DPE Comments and Response

The DPE has requested response for the following:

- a) *The impact of mitigation measures to address wind safety exceedances at points 10 and 11;*
- b) *mitigation measures to address wind safety exceedance at point 74;*
- c) *consideration of the additional Atlassian wind mitigation measures (required by condition D4 of SSD-10405) to address the three wind safety exceedances external to the site. Provide further mitigation to address wind impacts at these points, if required; and*
- d) *confirm whether the proposal as submitted has incorporated the Wind Report's*

Awning Extension at Southeast Corner (a, b, d)

Review of the RTS Drawing Issue prepared by Bates Smart (dated November 2022) shows that proposed awning extension at the southeast corner of the tower has been included in the design. Comparison of the drawings used for the wind tunnel test model and the RTS Drawings Issue are overlaid and shown in Image 2. The extension will capture the redirected winds and keep these above the ground level, thereby resolving the marginal exceedances identified at the corner (Points 10, 11, and 74). Therefore, all wind mitigation measures have completely been integrated into the architectural design of the building. It is also our understanding that the awning extension does not interfere with the proposed landscaping (to be confirmed by Arcadia).

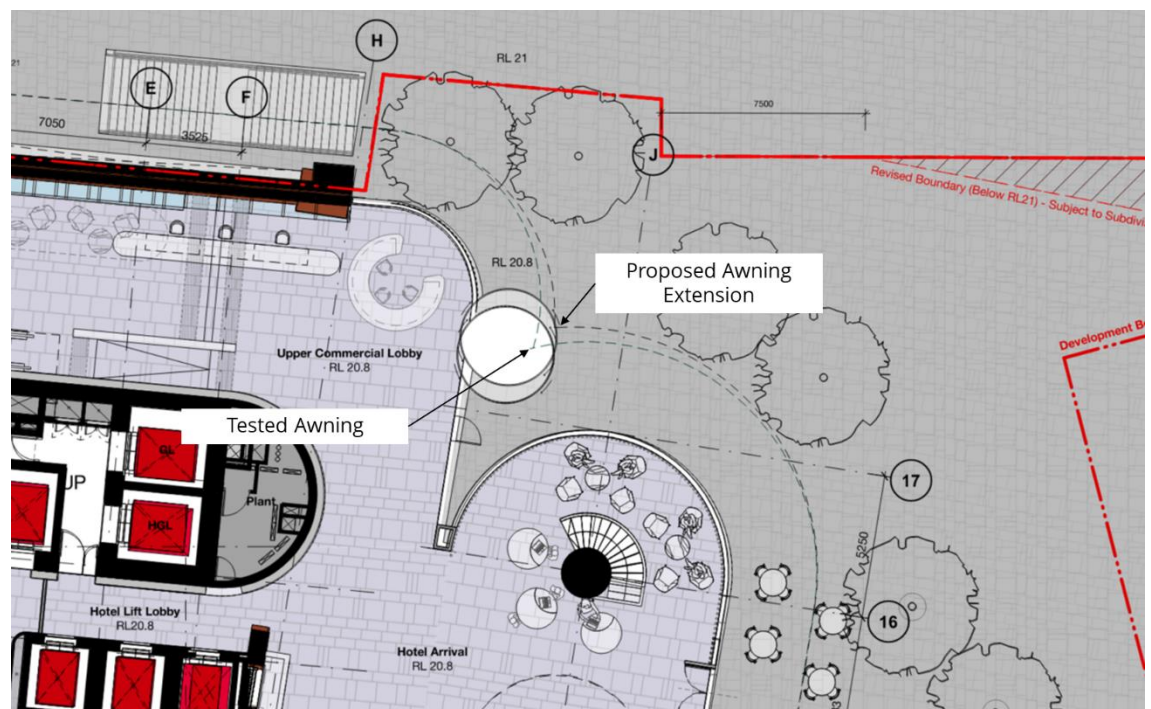


Image 2: Comparison of Test Awning and Proposed Awning Extension
(Source: Bates Smart)

Additional Measures for Atlassian Staging (c)

RWDI has conducted wind tunnel testing for the following configuration of the precinct:

- Configuration 1: Existing site with existing surroundings, including proposed Central Place Sydney and Atlassian developments.
- Configuration 2: Toga Central with existing surroundings, proposed Central Place Sydney and Atlassian developments.

Therefore, Configuration 1 demonstrates the wind conditions with both Atlassian and CPS. No strong winds are noted around the Atlassian site and, therefore, no additional wind mitigation measures are required external to the Atlassian site.

Central Place Sydney Proposal and Response

The Central Place Sydney has noted that *"Toga will be responsible for ensuring that on completion of Toga Central, the wind conditions in the precinct are not worsened in the public domain and on Lee Street. Any proposal delivering an outcome that is worse than the existing comfort and safety conditions or the conditions that are anticipated on completion of Blocks A and B would not be supported."*

Configuration 2, noted above, demonstrates the cumulative impact of the complete site within the surrounding context. The results were assessed against the Central Sydney Planning Strategy and with the Western Gateway Design Guide. The results of the assessment show that:

- Wind conditions are not worsened within the public domain and on Lee Street. Wind comfort conditions are noted to be equivalent between the two configurations and meet the required criteria at all locations.
- The assessment also shows that with the inclusion of the Toga along with Atlassian and Central Place Sydney, shifts the strong winds exceeding the safety criterion at the intersection of Lee Street and Little Regent Street and within the northern part of Central Station Platform to a localised exceedance at the base of the Toga building which is more manageable to resolve (Image 3). As noted, the extension of the awning at the southeast corner will resolve these marginal exceedances.

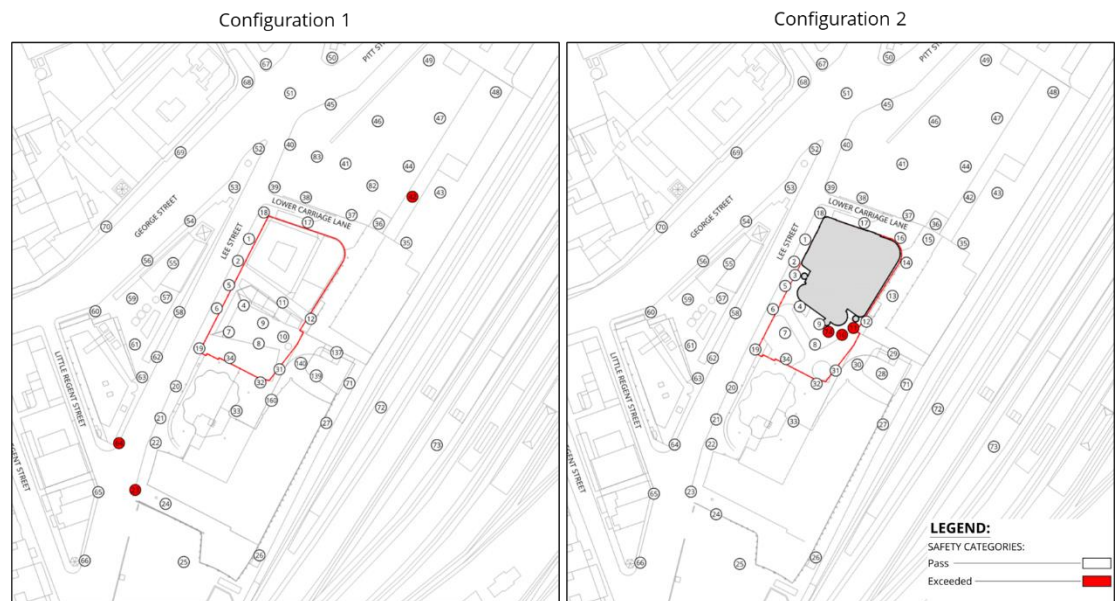


Image 3: Wind Safety Conditions within the Precinct

Therefore, based on the wind tunnel test results, RWDI can confirm that the current design satisfies requirements put forward by City of Sydney and Central Place Sydney.