WIND MICROCLIMATE

TECHNICAL NOTE

Cornbrook, Manchester

Forshaw Group

24/03/2025

GIA No: **19889** Ref: **JW/19889**

CORNBROOK, MANCHESTER - WIND CONDITIONS FOR UPDATED LANDSCAPING

Summary

This technical note has been prepared by GIA to demonstrate CFD results for the wind conditions on and around the site of the Proposed Development at Cornbrook, Manchester, when tested with the updated landscaping scheme included.

The "updated landscaping scheme" is shown in Figure 1, and has been updated from what was originally tested to avoid clashes with underground utilities. The key features with regards to wind are as follows:

- 4-5m tall deciduous "Liquidamber" trees in the locations shown in Figure 1;
- Six 1500mm x 1500mm 50% porous screens in the locations shown in blue in Figure 1; and
- One 1500mm x 3000mm 50% porous screen in the location shown in red in Figure1.

This is supplementary to the wind microclimate assessment report dated 21st May 2024, and the results demonstrate that the conclusions of that report (summarised below) remain valid for the Proposed Development with the updated landscaping scheme.

- The Proposed Development will have a beneficial impact on conditions for the roof terrace of the neighbouring Vox building.
- Ground level wind conditions will be suitable for the intended use (or consistent with the baseline) for all thoroughfares, existing building entrances, proposed entrances, tram stops, spill out seating and roof terraces around the site.
- Conditions around the site will not be significantly impacted by the inclusion of consented cumulative schemes, although once the proposed Pomona Island regeneration comes forwards it is expected to result in calmer wind conditions around the site.

Methodology

These conditions have been measured by testing a scenario for the Proposed Development with the updated landscaping scheme, tested with the Cumulative Surrounds (to replace Scenario 4 from the Wind Microclimate Assessment report dated 21st May 2024). The methodology used to assess the conditions was consistent with that set out in the May 2024 report.

Results

Annual safety at ground level for the Proposed Development with updated landscaping is shown in Figure 2. Winter comfort at ground level for the Proposed Development with updated landscaping is shown in Figure 3. Summer comfort at ground level for the Proposed Development with updated landscaping is shown in Figure 4

There are two pre-existing safety exceedances within the under-croft of the neighbouring Vox development (marked "1" and "2" on Figure 2). These are consistent with the baseline so are not attributable to the Proposed Development.

The two previously identified regions of S15 (distress) exceedance, by the south east corner of the site (marked "3" on Figure 2) and off-site on Bridgewater Way (marked "4" on Figure 2) have both been eradicated.

All principal proposed entrances (marked "E" in results figures) are suitable for either sitting or standing in all seasons. This is suitable for the intended use.

All principal off-site entrances (marked "O" in results figures) are suitable for either sitting or standing in all seasons. This is suitable for the intended use.

The platforms of Cornbrook tram stop (marked "T" in results figures) are suitable for standing in winter and sitting or standing in summer. This is suitable for the intended use.

Conditions for the proposed spill-out seating (marked "S" in results figures) are suitable for standing in winter and sitting in summer to the east of the Proposed Development, and for a mix of standing and leisure walking in winter and a mix of sitting standing in summer (with the majority of the space suitable for sitting in summer) to the south of the Proposed Development. This is suitable for the intended use.

The above conditions are all consistent with those reported for Scenario 4 of the May 2024 Wind Microclimate Assessment report, and therefore the impact of the updated landscaping is consistent with that of the landscaping scheme that was tested during the original assessment.



Fig. 01: Updated Proposed Landscaping



Fig. 02: Wind Safety for Proposed Development with Updated Landscaping Scheme

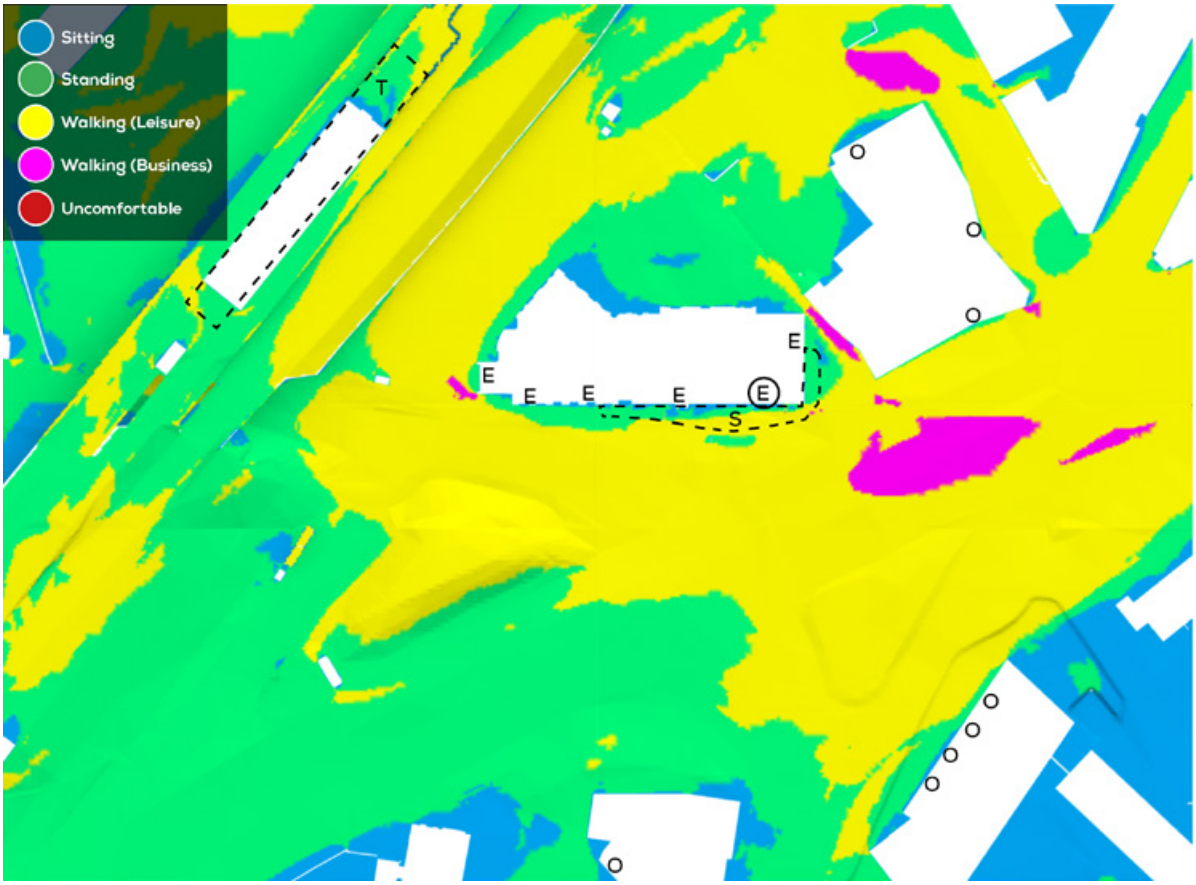


Fig. 03: Winter Comfort Conditions for Proposed Development with Updated Landscaping Scheme

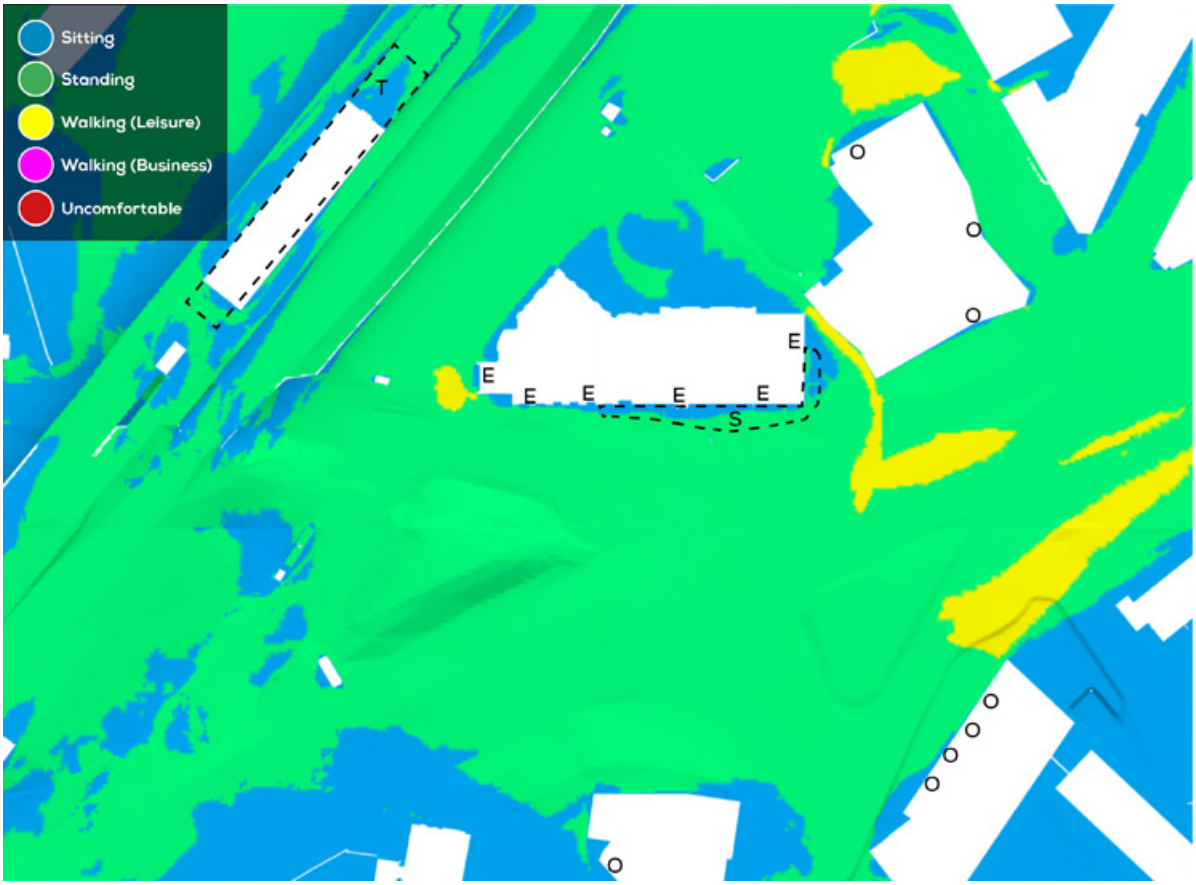


Fig. 04: Summer Comfort Conditions for Proposed Development with Updated Landscaping Scheme

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