

Clarifications on Wind Assessments in the Vicinity of Centrepont tower

Date: 21st May 2013

Background

Camden planning office has received two wind assessments, one for the '*Centrepont proposals*' and one for the '*Consolidated proposals*'. Comparison of the two methodologies is summarised in Table 1. Buro Happold (BH) assessed the '*Consolidated proposals*', RWDI assessed the '*Centrepont proposals*'. The purpose of this document is to provide a single response to explain why there are differences in the assessments and the recommendations for mitigation.

Comfort Criteria: Both wind assessments use the Bristol Lawson Comfort Criteria to benchmark the wind microclimate. However, the criteria have two sets of wind speed thresholds; one marks the boundary between 'acceptable' and 'tolerable' wind conditions, the other marks the boundary between 'tolerable' and 'unacceptable' conditions. Lawson's guidance is that if the wind conditions are in the 'tolerable' range there is no need for mitigation. BH has applied the lower wind speed threshold whereas RWDI has applied the upper threshold. This means that in terms of pedestrian comfort, the reporting of the wind environment would be 'windier' in the BH presentation than the RWDI presentation. The application of the different criteria would present a different interpretation of the wind climate in the two assessments.

Strong winds: BH has actually applied the strong wind criteria from the LDDC variant of the Lawson Comfort Criteria which are based upon 15m/s and 20m/s wind speed thresholds. RWDI reports on the frequency with which the wind speed exceeds B6(14.1m/s), B7(17.2m/s) or B8(20.8m/s). The application of these different criteria does not introduce any bias in the assessments as they describe a similar range of wind speeds. RWDI routinely advises that exceeding B6 for only a few hours per year on a thoroughfare would be 'acceptable' whereas wind speeds in excess of B7 and B8 would impede walking. The LDDC thresholds represent a limit for elderly/disabled/children and able-bodied access respectively.

Contrast and Compare

The variation in the relative wind speeds across the Site in the two studies is similar, e.g. New Oxford Street is relatively windy, the south side of the Centrepont Tower is relatively windy, in both assessments. There is also agreement that the wind environment before-and-after development in the two assessments shows relatively little change in the wind microclimate.

Differences between the two assessments of pedestrian comfort occur because of the bias introduced by the two different comfort thresholds (as discussed above).

	Zone Modelled	Wind Climate	Mean / Gust	No of Wind Directions	Receptors	Scenarios	Comfort	Strong Winds
RWDI / Centrepont Wind Tunnel	760m diameter	Combined Heathrow/ Stansted/ Gatwick	Both mean and gust	36	Point measurements / discrete receptors	(i) Baseline; (ii) Proposed + existing; (iii) Proposed + Cumulative	Lawson (Bristol) Tolerable/ unacceptable threshold	>B6 (14.1m/s)); 'tolerable' on thoroughfare >B7 (17.2m/s); impede walking >B8(20.8m/s); impede walking
BH / St Giles Circus Computer Simulation (CFD)	1200m diameter	Heathrow	Only mean	12	Comfort/wind speed contours of whole area	<ul style="list-style-type: none"> Configuration 1: 'Theoretical baseline' (i.e. with the St Giles Circus site in pre-demolition state and including the new Crossrail station and adjacent proposed developments either side of the St Giles Circus site); as agreed with Camden City Council Configuration 2: Proposed development with existing surroundings and other developments as above <p>In addition to the CFD assessment of these two configurations, cumulative effects due to the proposed development and other future</p>	Lawson (Bristol) Acceptable/ tolerable threshold	15m/s (elderly/child limit) 20m/s (able bodied limit)

						developments near the site are evaluated qualitatively		
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