

Waterfront Square - Response to Wind Comments

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To: "jonathan.walton@opus.works" <jonathan.walton@opus.works>, Chris Harley <chris.harley@gia.uk.com>
Cc: Edwina Coward <edwina.coward@packagedliving.co.uk>

16 December 2024 at 18:04

Hi Jonathan,

Our response to the wind comments is below:

22	Statutory	ArcAero	The applicant states that they use an empirical formula based on experimental data to estimate the effects of gusts. The methodology to establish this relationship is however unclear to us. Can the applicant provide additional detail / evidence as appropriate?	This method is an empirical method based on wind tunnel data, which avoids the issues which turbulence decay and over-production of k in stagnation points can typically cause in the turbulent kinetic energy field in CFD. The method uses an observed relationship between wind tunnel mean and GEM velocities to provide a conservative estimate of GEM. We use the calculated GEM and the mean velocity to create comfort and safety categories, and then report the higher of the two. So conservative results are ensured. The attached spreadsheet contains correlation examples of this method with wind tunnel data to demonstrate its efficacy.
22	Statutory	ArcAero	The report suggests that access to the SW corner of the Level 8 terrace is restricted by landscaping features, and that wind speeds will be reduced by the replacement of an open railing with a solid parapet, and therefore will also eliminate the exceedances found at the area. While plausible, this is an unsupported claim. Can the applicant superimpose the extents of the inaccessible region over the results to show that the regions indeed overlap, or perform an additional simulation with the mitigations in place to demonstrate that these measures are indeed effective?	See attached overlay for the worst case (safety for the proposed development in existing surrounds) to show that the amount for which the exceedance impinges on the terrace is reduced to a negligible sliver by the terrace planting (and also noting that this planting will have a further calming effect on wind speeds).
23	Statutory	ArcAero	Images are provided of the proposed development in existing surrounds. Can the applicant also provide images of the existing site, so the reader can understand the additional mass and different features being introduced to the site?	See attached

I am off tomorrow, so I am cc'ing @Chris Harley in case any further clarifications are needed.

Thanks,
Jon



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3 attachments



RepNo22_OverlayOfWorstCaseConditionsOnTerrace.png
1561K



RepNo23_ExistingSiteAsTested.png
1221K



GEMmethod-Correlation.xlsx
927K