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RE: **Additional Stair Core – Wind Microclimate**
Corner of Saxton Lane and Foundry Street
Leeds, UK

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In 2020, RWDI was retained to undertake a pedestrian level wind assessment of the proposed development of the plot on the Corner of Saxton Lane and Foundry Street in Leeds, (ref. 20/04145/FU, consented March 2022, hereafter referred to as the 'Development'). Wind conditions at the Development were assessed and wind mitigation measures developed through a series of wind tunnel tests, as set out in the wind microclimate technical report dated 30th June 2020 (RWDI # 2001712 Rev C '*Pedestrian Level Wind Microclimate Assessment including Mitigation Testing*').

Further to the wind microclimate assessment, amendments have been proposed to the Development to incorporate an additional stair core to comply with emerging fire regulations for buildings over 30m in height. The potential impact of these amendments on the outcomes of the wind microclimate assessment have been assessed qualitatively using the professional judgement of an experienced wind engineer and RWDI's familiarity with the Development.

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The proposed stair core would be contained within the consented envelope up to the 17th floor level, where after the enclosed stair core would project into the 17th floor terrace and extend to roof level. Other amendments to incorporate the stair core would be internal, and as such would not influence the wind microclimate assessment. Images of the proposed amendments to the Development are presented in Figure 1, below.

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Figure 1: Proposed amendments above 17th floor level – left, as submitted; right, as amended

Expected Wind Conditions

Due to the stair core being located on the eastern elevation of the Development, the projection into the 17th floor terrace would not be exposed to the prevailing westerly winds that occur in Leeds throughout the year. As tested in 2020, wind conditions on the 17th floor terrace would be suitable for occasional sitting use during the summer season. As the stair core is sheltered from the prevailing winds by the upper floors of the Development, no substantial change in wind conditions would be likely and wind conditions on the 17th floor terrace would be anticipated to be no windier than occasional sitting use.

The location of the stair core on the leeward side of the Development and being located above the 17th floor terrace mean that there would be no influence on wind conditions for people at ground level.

Conclusions

RWDI have reviewed proposed amendments to the Development using professional judgement informed by the wind tunnel assessment undertaking in support of the 2022 consent.

No change to wind conditions is expected at ground level and wind conditions on the 17th floor terrace would be no windier than assessed. As such the outcomes of the wind microclimate assessment would be expected to remain valid.

Yours sincerely,

David Hamlyn
Senior Project Manager

Andrew Proud
Senior Project Engineer



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This report entitled Additional Stair Core – Wind Microclimate Technical Note dated June 9th, 2023, was prepared by RWDI for United Living (“Client”). The findings and conclusions presented in this report have been prepared for the Client and are specific to the development described herein (“Project”). The conclusions and recommendations contained in this report are based on the information available to RWDI when this report was prepared. Because the contents of this report may not reflect the final design of the Project or subsequent changes made after the date of this report, RWDI recommends that it be retained by Client during the final design stage to verify that the results and recommendations provided in this report have been correctly interpreted in the final design of the Project.

The conclusions and recommendations contained in this report have also been made for the specific purpose(s) set out herein. Should the Client or any other third party utilise the report and/or implement the conclusions and recommendations contained therein for any other purpose or project without the involvement of RWDI, the Client or such third party assumes any and all risk of any and all consequences arising from such use and RWDI accepts no responsibility for any liability, loss, or damage of any kind suffered by Client or any other third party arising therefrom.

Finally, it is imperative that the Client and/or any party relying on the conclusions and recommendations in this report carefully review the stated assumptions contained herein and to understand the different factors which may impact the conclusions and recommendations provided.

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The findings included in this report are based on the following information (“Project Data”) disclosed to RWDI:

- 48514-BBA-03-X17-DR-A-0318-S0 – received May 2023; and
- 48514-BBA-03-ZZ-DR-A-03100-S0 – received May 2023

The recommendations and conclusions are based on the following assumptions:

- The Project Data is accurate and complete;
- The Proposed Development, when built, does not deviate substantially from the information listed above. “Substantially” in this case means any change to the exterior form of the buildings that would change the wind flow around it, in a way that would impact pedestrian comfort or safety; and

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Sensitive areas of the Site (such as amenity spaces) are expected to be used in line with the temporal specifications set out in the report body.

Any change in the Project Data or Project Specific Conditions not reflected in this report can impact and/or alter the recommendations and conclusions in this report. Therefore, it is incumbent for the Client and/or any other third party relying on the recommendations and conclusions in this report to contact RWDI in the event of any change in the Project Data and Project Specific Conditions in order to determine whether any such change(s) may impact the assumptions upon which the recommendations and conclusions were made.