WIND MICROCLIMATE VERIFICATION LETTER

Ashley Park

Re:shape T Ltd

27/10/2026

GIA No: **23516**

Wind Microclimate Verification

This letter is in relation to the Wind Microclimate of the Proposed Development known as Ashley Park, located at the former Ashley House site, Ashley Road, Tottenham Hale, London, N17 9LZ (planning ref. HGY/2026/2421). GIA have performed a Wind Tunnel test of the Wind Microclimate conditions to verify the Computational Fluid Dynamics (CFD) results submitted as part of the planning application.

August 2026 Environmental Impact Assessment

In August 2026, GIA produced the ES Volume I: Chapter 8: Wind Microclimate for HGY/2026/2421. This concluded that there would be no significant Wind Microclimate effects at any of the areas at and around the Proposed Development in the context of both the existing and cumulative surrounding buildings, and all locations were found to be suitable for their intended use from a wind perspective.

Wind Microclimate Comparison

Wind Tunnel testing has been performed to verify the Wind Microclimate conditions. Therefore the same configurations tested in CFD have been performed in the Wind Tunnel testing. The methodology mimics that used in the ES Volume I: Chapter 8: Wind Microclimate except where Wind Tunnel specific methods were employed. These are provided in the supporting appendix at the end of this document.

Figures 01 to 40 show Wind Tunnel testing results compared with the CFD results for the four configurations and all locations were found to be suitable for their intended use from a wind perspective, as tested for the planning submission:

- Configuration 1: The Existing site with the Existing Surrounding Buildings and existing landscaping
- Configuration 2: The Proposed Development (excluding proposed landscaping) with the Existing Surrounding Buildings and existing landscaping
- Configuration 3: The Proposed Development and proposed landscaping with the Existing Surrounding Buildings and existing landscaping
- Configuration 4: The Proposed Development and proposed landscaping with the Cumulative surrounding Buildings and existing landscaping

The proposed landscaping matches that were tested in the CFD testing, and outlined in the Mitigation, Monitoring and Residual Effects section of the ES Volume I: Chapter 8: Wind Microclimate

To allow for ease of comparison, CFD results (planning submitted) are shared on the left hand side of the results pages, and the corresponding Wind Tunnel tested results are shown on the right hand side of the results pages. Below summarises the wind conditions and the key differences for each configuration.

Configuration 1: The Existing site with the Existing Surrounding Buildings and existing landscaping

Figures 01, 03 and 05 show the CFD results for ground level of configuration 1 in Strong winds, Windiest Season comfort and Summer comfort conditions. Figures 02, 04 and 06 show the Wind Tunnel results for ground level of configuration 1 in Strong winds, Windiest Season comfort and Summer comfort conditions.

Figures 07 and 09 show the CFD results for off-site terrace level of configuration 1 in Strong winds and Summer comfort conditions. Figures 08 and 10 show the Wind Tunnel results for off-site terrace level of configuration 1 in Strong winds and Summer comfort conditions.

The Wind Tunnel wind conditions range between suitable for sitting, standing and leisure walking in Windiest Season and summer. The CFD wind conditions range between suitable for sitting, standing, leisure walking and business walking in Windiest Season and sitting, standing and leisure walking in summer. The area of business walking in CFD is located outside of the probed area in Wind Tunnel testing. In both cases no wind safety exceedances exist. Two of the three Wind Tunnel probes that represent offsite entrances for the semi-detached properties along Hale Road (numbers 1-19) are suitable for leisure walking in Windiest Season. For these semi-detached properties, the CFD shows an area offset from the entrances suitable for leisure walking, while directly outside the entrance the CFD measures winds suitable for standing in Windiest Season. These entrances are also recessed and so leisure walking can be accepted.

The private gardens G1 to the back of the semi-detached properties along Hale Road are suitable for a mix of sitting and standing in summer, in both CFD and Wind Tunnel results. The mixed amenity A1 and A2 to the north of the site are suitable for a mix of sitting and standing in summer, in both CFD and Wind Tunnel results. The offsite seating to the east of Rosa Luxemburg Apartments is suitable for sitting in summer, in both CFD and Wind Tunnel results.

The offsite terraces at Rosa Luxemburg Apartments, West Apartments and East Apartments wind conditions are

suitable for either sitting or standing in summer in CFD and Wind Tunnel testing.

The overall wind patterns between the two tools are consistent and show good correlation.

The wind conditions described above set the baseline for the remaining configurations.

Configuration 2: The Proposed Development (excluding proposed landscaping) with the Existing Surrounding Buildings and existing landscaping

Figures 11, 13 and 15 show the CFD results for ground level of configuration 2 in Strong winds, Windiest Season comfort and Summer comfort conditions. Figures 12, 14 and 16 show the Wind Tunnel results for ground level of configuration 2 in Strong winds, Windiest Season comfort and Summer comfort conditions.

Figures 17 and 19 show the CFD results for off-site and onsite terrace level of configuration 2 in Strong winds and Summer comfort conditions. Figures 18 and 20 show the Wind Tunnel results for off-site terrace level and onsite terrace level and the balconies of the Affordable block of configuration 2 in Strong winds and Summer comfort conditions.

The Wind Tunnel and CFD wind conditions range between suitable for sitting, standing, leisure walking and business walking in Windiest Season and sitting, standing and leisure walking in summer. Two Wind Tunnel probes located between the Affordable housing block and the Shared Living block are suitable for business walking in Windiest Season. This is slightly windier than CFD in this location, but the addition of landscaping achieves suitable wind conditions as outlined below. One of the offsite entrances along Hale Road (marked "O" in the ES Volume I: Chapter 8: Wind Microclimate) is now suitable for standing in Windiest Season which is an improvement on the baseline conditions. It is worth noting that the offsite entrances along Hale Road are inset and so leisure walking in Windiest Season is suitable in this instance for the second entrance probed.

In both CFD and Wind Tunnel testing there are no wind safety exceedances.

The offsite and onsite terrace/balcony wind conditions range between being suitable for sitting or standing in summer and are consistent between CFD and Wind Tunnel Testing.

The private gardens G1 to the back of the semi-detached properties along Hale Road are suitable for a mix of sitting and standing in summer, in CFD and standing in summer in the Wind Tunnel results. These results are consistent as the Wind Tunnel probes lie within areas of standing in the CFD results.

The mixed amenity A1 to the north of the site is suitable for a mix of sitting and standing in summer, in both CFD and Wind Tunnel results. The mixed amenity A2 to the north of the site is suitable for sitting in summer, in both CFD and Wind Tunnel results. The offsite seating to the east of Rosa Luxemburg Apartments is suitable for sitting in summer, in both CFD and Wind Tunnel results.

The overall wind patterns between the two tools are consistent and show good correlation where the study areas overlap.

Configuration 3: The Proposed Development and proposed landscaping including mitigation (as defined above) with the Existing Surrounding Buildings and existing landscaping

Figures 21, 23 and 25 show the CFD results for ground level of configuration 3 in Strong winds, Windiest Season comfort and Summer comfort conditions. Figures 22, 24 and 26 show the Wind Tunnel results for ground level of configuration 3 in Strong winds, Windiest Season comfort and Summer comfort conditions.

Figures 27 and 29 show the CFD results for off-site and onsite terrace level of configuration 3 in Strong winds and Summer comfort conditions. Figures 28 and 30 show the Wind Tunnel results for off-site terrace level and onsite terrace level and the balconies of the Affordable block of configuration 3 in Strong winds and Summer comfort conditions.

The CFD wind conditions range between suitable for sitting, standing, leisure walking and business walking in Windiest Season and sitting, standing and leisure walking in summer. The Wind Tunnel wind conditions range between suitable for sitting, standing and leisure walking in Windiest Season and summer. The area of business walking in CFD is outside of the probed area in the Wind Tunnel testing.

The two Wind Tunnel probes that were suitable for business walking in Windiest Season are now suitable for a mixture of standing and leisure walking in Windiest Season, and a mixture of sitting and standing in summer. This is suitable for the intended use and is consistent with the CFD results.

In both CFD and Wind Tunnel testing there are no wind safety exceedances.

The offsite and onsite terrace/balcony wind conditions range between being suitable for sitting or standing in summer and are consistent between CFD and Wind Tunnel Testing.

The private gardens G1 to the back of the semi-detached properties along Hale Road are suitable for a mix of sitting and standing in summer, in CFD and standing in summer in the Wind Tunnel results. These results are consistent as the Wind Tunnel probes lie within areas of standing in the CFD results.

The mixed amenity A1 to the north of the site is suitable for a mix of sitting and standing in summer in the CFD and sitting in the Wind Tunnel results. As with the G1 location, this is due to the probe locations aligning with CFD areas suitable for sitting. The mixed amenity A2 to the north of the site is suitable for sitting in summer, in both CFD and Wind Tunnel results. The offsite seating to the east of Rosa Luxemburg Apartments is suitable for sitting in summer, in both CFD and Wind Tunnel results.

The conclusions of the August 2026 ES Volume I: Chapter 8: Wind Microclimate in relation to Configuration 3 remain robust and valid.

Configuration 4: The Proposed Development and proposed landscaping with the Cumulative surrounding Buildings and existing landscaping

Figures 31, 33 and 35 show the CFD results for ground level of configuration 4 in Strong winds, Windiest Season comfort and Summer comfort conditions. Figures 32, 34 and 36 show the Wind Tunnel results for ground level of configuration 4 in Strong winds, Windiest Season comfort and Summer comfort conditions.

Figures 37 and 39 show the CFD results for off-site and onsite terrace level of configuration 4 in Strong winds and Summer comfort conditions. Figures 38 and 40 show the Wind Tunnel results for off-site terrace level and onsite terrace level and the balconies of the Affordable block of configuration 4 in Strong winds and Summer comfort conditions.

The CFD wind conditions range between suitable for sitting, standing, leisure walking and business walking in Windiest Season and sitting, standing and leisure walking in summer. The Wind Tunnel wind conditions range between suitable for sitting, standing and leisure walking in Windiest Season and summer. The area of business walking in CFD is outside of the probed area in the Wind Tunnel testing.

In both tools there are no wind safety exceedances.

The offsite and onsite terrace/balcony wind conditions range between being suitable for sitting or standing in summer and are consistent between the two tools.

The private gardens G1 to the back of the semi-detached properties along Hale Road are suitable for a mix of sitting and standing in summer, in CFD and standing in summer in the Wind Tunnel results. These results are consistent as the Wind Tunnel probes lie within areas of standing in the CFD results.

The mixed amenity A1 to the north of the site is suitable for a mix of sitting and standing in summer, in both CFD and Wind Tunnel results. The mixed amenity A2 to the north of the site is suitable for sitting in summer, in both CFD and Wind Tunnel results. The offsite seating to the east of Rosa Luxemburg Apartments is suitable for sitting in summer, in both CFD and Wind Tunnel results.

The conclusions of the August 2026 ES Volume I: Chapter 8: Wind Microclimate in relation to Configuration 4 remain robust and valid.

Conclusion

GIA have performed a Wind Tunnel test of the Wind Microclimate conditions to verify the Computational Fluid Dynamics (CFD) results submitted as part of the August 2026 planning application (planning ref. HGY/2026/2421).

The results correlate well with the CFD submitted as part of the planning application, and where discrepancies lie i.e. the business walking region within the site and the offsite entrance along Hale Road, these are not sufficient to change the conclusions of the ES Volume I: Chapter 8: Wind Microclimate. As such, the conclusions of the August 2026 ES Volume I: Chapter 8: Wind Microclimate remain robust and valid and there will be no significant Wind Microclimate effects at any of the areas at and around the Proposed Development in the context of both the existing and cumulative surrounding buildings.



Fig. 01: Configuration 1: Existing Site with Existing Surrounds, Ground, Strong Winds (CFD)

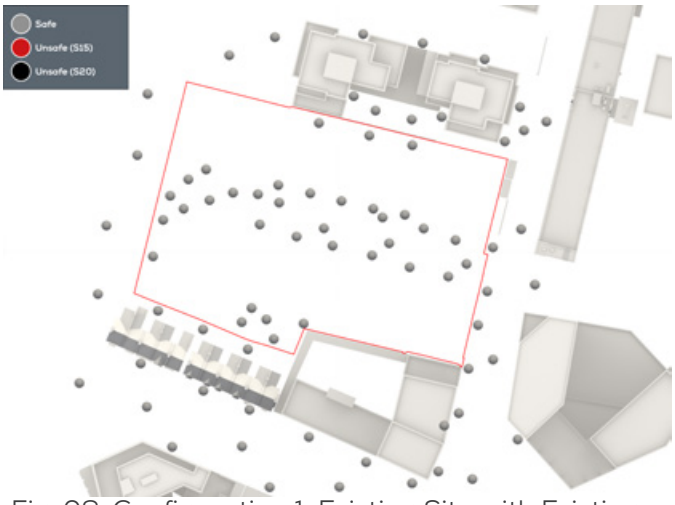

Fig. 02: Configuration 1: Existing Site with Existing Surrounds, Ground, Strong Winds (Wind Tunnel)

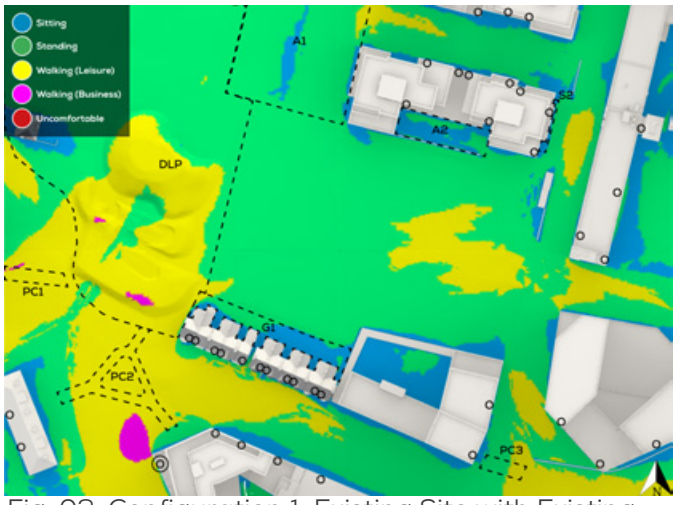

Fig. 03: Configuration 1: Existing Site with Existing Surrounds, Ground, Windiest Season (CFD)

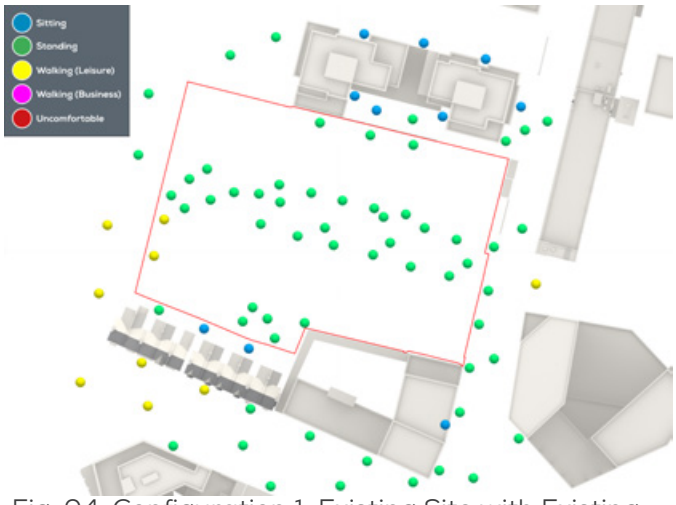

Fig. 04: Configuration 1: Existing Site with Existing Surrounds, Ground, Windiest Season (Wind Tunnel)

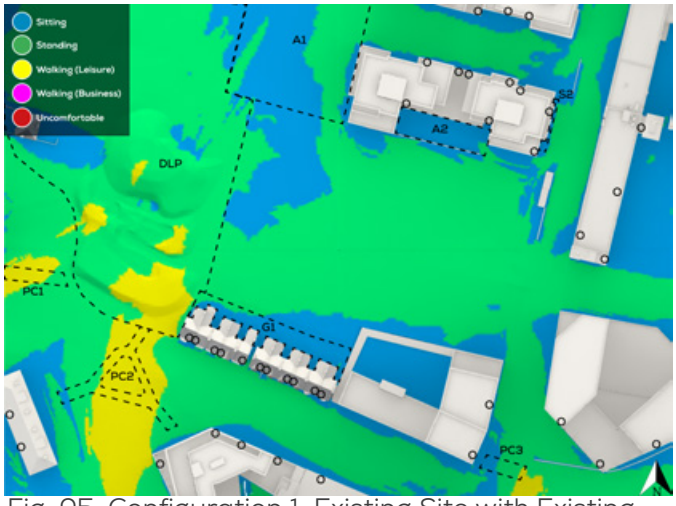

Fig. 05: Configuration 1: Existing Site with Existing Surrounds, Ground, Summer (CFD)

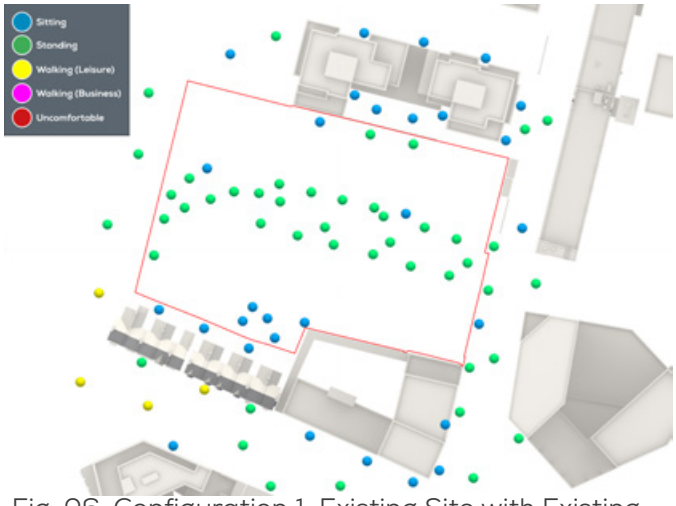

Fig. 06: Configuration 1: Existing Site with Existing Surrounds, Ground, Summer (Wind Tunnel)



Fig. 07: Configuration 1: Existing Site with Existing Surrounds, Elevated Levels, Strong Winds (CFD)



Fig. 08: Configuration 1: Existing Site with Existing Surrounds, Elevated Levels, Strong Winds (Wind Tunnel)



Fig. 09: Configuration 1: Existing Site with Existing Surrounds, Elevated Levels, Summer (CFD)



Fig. 10: Configuration 1: Existing Site with Existing Surrounds, Elevated Levels, Summer (Wind Tunnel)



Fig. 11: Configuration 2: Proposed Development with Existing Surrounds, Ground, Strong Winds (CFD)



Fig. 12: Configuration 2: Proposed Development with Existing Surrounds, Ground, Strong Winds (Wind Tunnel)

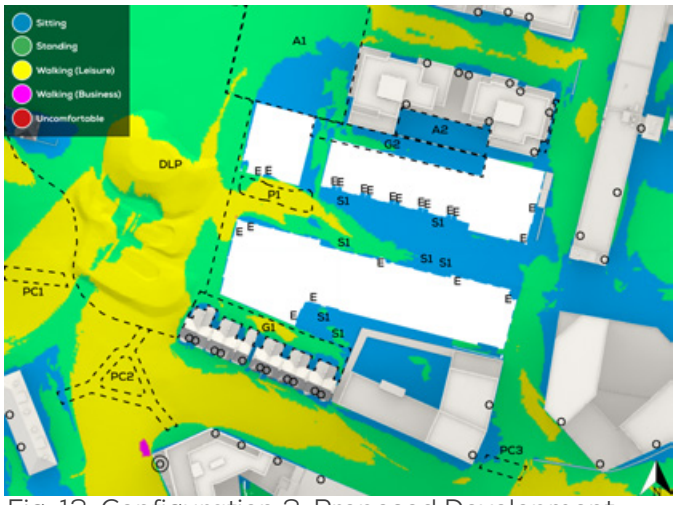

Fig. 13: Configuration 2: Proposed Development with Existing Surrounds, Ground, Windiest Season (CFD)



Fig. 14: Configuration 2: Proposed Development with Existing Surrounds, Ground, Windiest Season (Wind Tunnel)

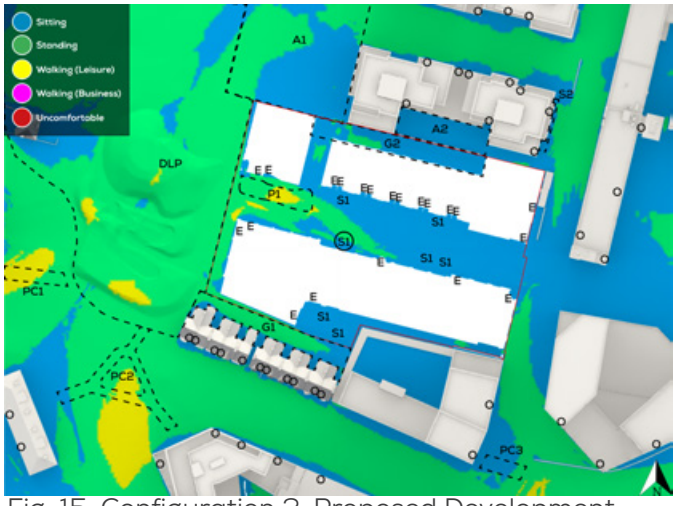

Fig. 15: Configuration 2: Proposed Development with Existing Surrounds, Ground, Summer (CFD)



Fig. 16: Configuration 2: Proposed Development with Existing Surrounds, Ground, Summer (Wind Tunnel)

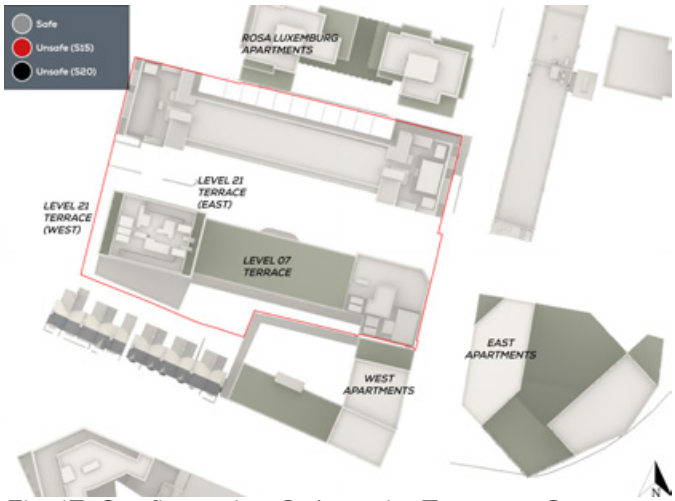

Fig. 17: Configuration 2: Amenity Terraces, Strong Winds (CFD)

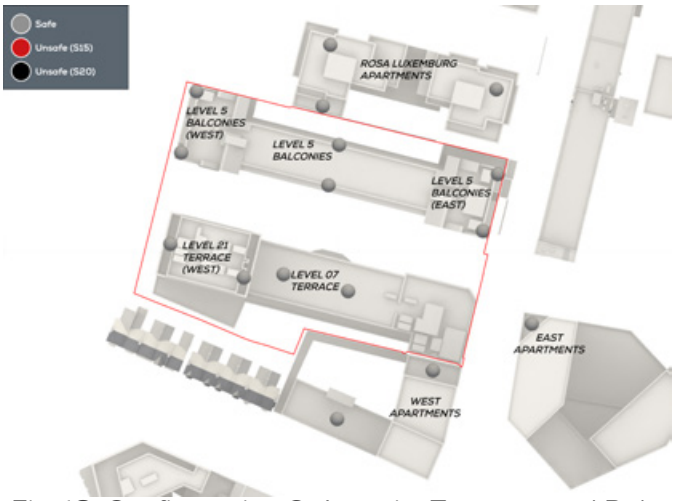

Fig. 18: Configuration 2: Amenity Terraces and Balconies, Strong Winds (Wind Tunnel)



Fig. 19: Configuration 2: Amenity Terraces, Summer (CFD)



Fig. 20: Configuration 2: Amenity Terraces and Balconies, Summer (Wind Tunnel)



Fig. 21: Configuration 3: Proposed Development with Landscaping and Existing Surrounds, Ground, Strong Winds (CFD)



Fig. 22: Configuration 3: Proposed Development with Landscaping and Existing Surrounds, Ground, Strong Winds (Wind Tunnel)

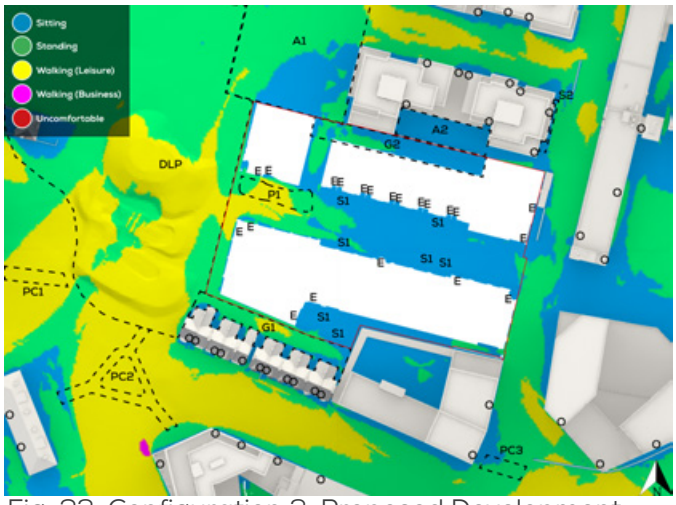

Fig. 23: Configuration 3: Proposed Development with Landscaping and Existing Surrounds, Ground, Windiest Season (CFD)



Fig. 24: Configuration 3: Proposed Development with Landscaping and Existing Surrounds, Ground, Windiest Season (Wind Tunnel)

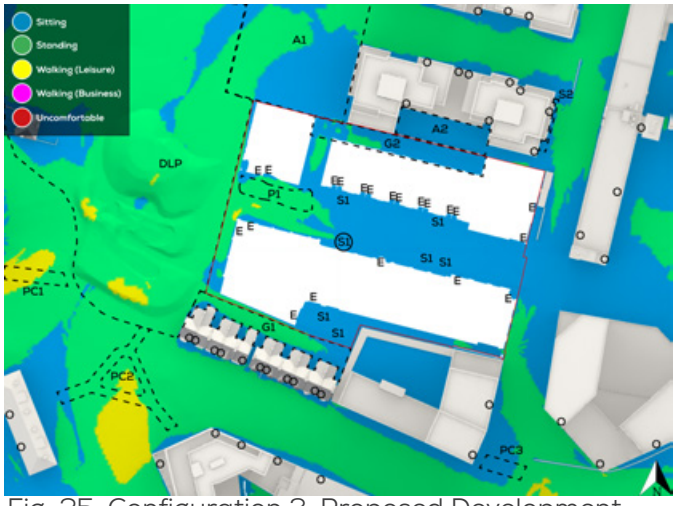

Fig. 25: Configuration 3: Proposed Development with Landscaping and Existing Surrounds, Ground, Summer (CFD)



Fig. 26: Configuration 3: Proposed Development with Landscaping and Existing Surrounds, Ground, Summer (Wind Tunnel)

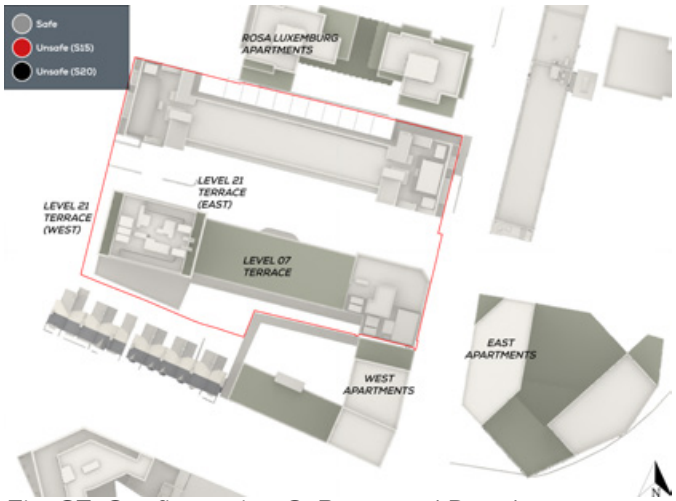

Fig. 27: Configuration 3: Proposed Development with Landscaping and Existing Surrounds, Amenity Terraces, Strong Winds (CFD)

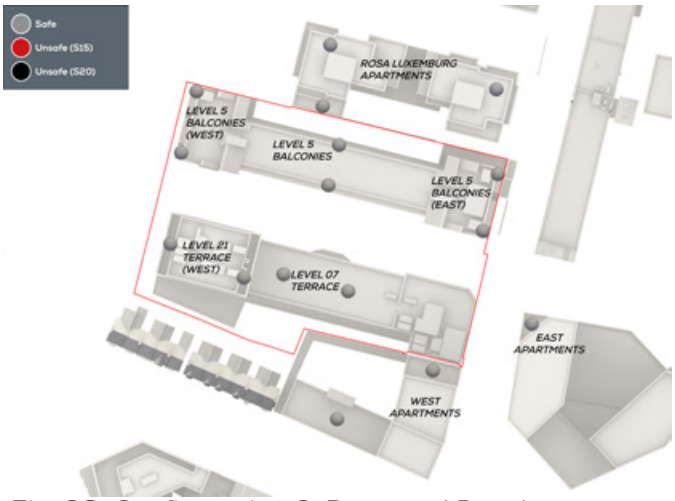

Fig. 28: Configuration 3: Proposed Development with Landscaping and Existing Surrounds, Amenity Terraces and Balconies, Strong Winds (Wind



Fig. 29: Configuration 3: Proposed Development with Landscaping and Existing Surrounds, Amenity Terraces, Summer (CFD)



Fig. 30: Configuration 3: Proposed Development with Landscaping and Existing Surrounds, Amenity Terraces and Balconies, Summer (Wind Tunnel)



Fig. 31: Configuration 4: Proposed Development with Landscaping and Cumulative Surrounds, Ground, Strong Winds (CFD)



Fig. 32: Configuration 4: Proposed Development with Landscaping and Cumulative Surrounds, Ground, Strong Winds (Wind Tunnel)



Fig. 33: Configuration 4: Proposed Development with Landscaping and Cumulative Surrounds, Ground, Windiest Season (CFD)



Fig. 34: Configuration 4: Proposed Development with Landscaping and Cumulative Surrounds, Ground, Windiest Season (Wind Tunnel)

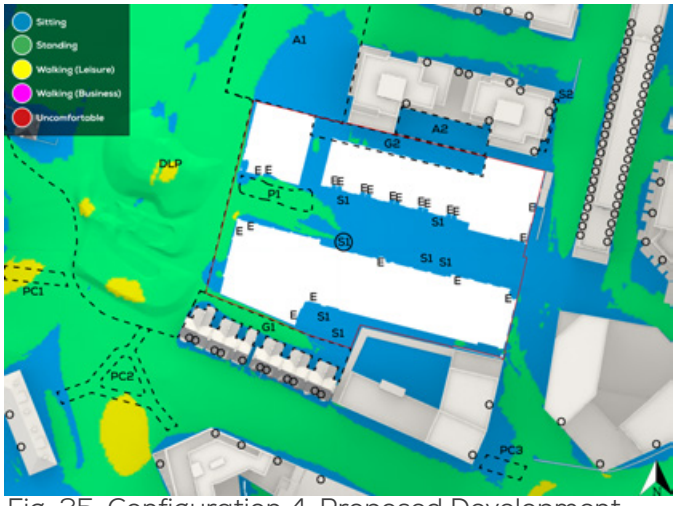

Fig. 35: Configuration 4: Proposed Development with Landscaping and Cumulative Surrounds, Ground, Summer (CFD)



Fig. 36: Configuration 4: Proposed Development with Landscaping and Cumulative Surrounds, Ground, Summer (Wind Tunnel)

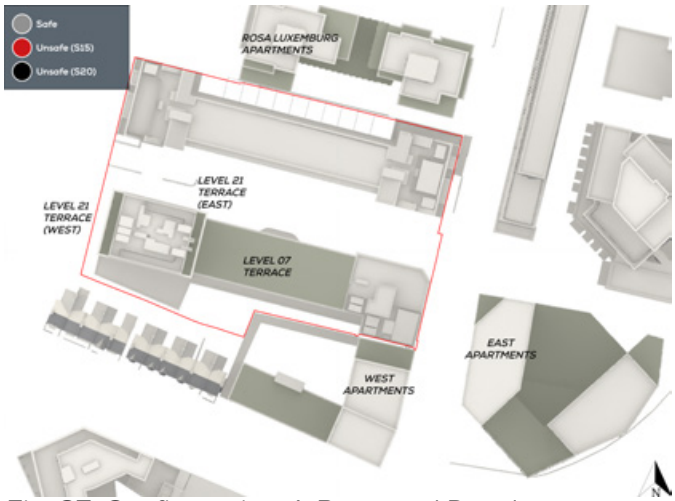

Fig. 37: Configuration 4: Proposed Development with Landscaping and Cumulative Surrounds, Amenity Terraces, Strong Winds (CFD)

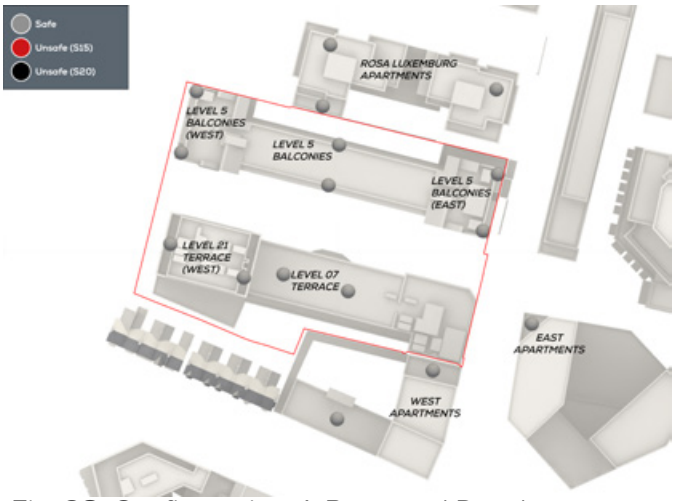

Fig. 38: Configuration 4: Proposed Development with Landscaping and Cumulative Surrounds, Amenity Terraces and Balconies, Strong Winds



Fig. 39: Configuration 4: Proposed Development with Landscaping and Cumulative Surrounds, Amenity Terraces, Summer (CFD)



Fig. 40: Configuration 4: Proposed Development with Landscaping and Cumulative Surrounds, Amenity Terraces and Balconies, Summer (Wind

APPENDIX 01
WIND TUNNEL METHODOLOGY

WIND TUNNEL METHODOLOGY

The present assessment is based on Boundary Layer Wind Tunnel Testing of the proposed development. The assessment is based on 1:400 scale boundary layer Wind Tunnel testing, carried out in the 10 X 5 Wind Tunnel in the Aeronautical Engineering Department of Imperial College.

Wind speed measurements were made using "Irwin" probes, which measure simultaneous fluctuating pressures at ground level and at 1.5m above ground level at full scale, to provide fluctuating omnidirectional wind speeds at 1.5m above ground level. Pressure measurement was done using an electronically scanned pressure system that allows up to 512 channels of pressures to be sampled simultaneously at high speeds in order to capture rapid fluctuation of the signals.

As the present assessment was conducted at 1:400 scale, the Wind Tunnel speed was set at circa at a wind speed equivalent to 15 m/s at full scale (over which safety impacts are noted) so that 48 seconds data acquisition time at 600 Hz would be equivalent to 160 minutes of full scale data acquisition at 2 Hz.

Fluctuating pressures measured through long tubes are subjected to distortion by what commonly known as "organ pipe" effect, which leads to certain frequencies getting amplified or attenuated depending on the geometry of the long tube.

The measured data of this study were digitally corrected by applying a recursive filter, which was calibrated to correct for the distortion caused by the tube length and characteristics used in the assessment.

The speed-up factor time histories were analysed using Extreme Value Analysis to derive statistically stable gust wind speeds for each measurement location and wind direction.

WIND CLIMATE METHODOLOGY

Seasonal wind roses for London Heathrow and City airports combined are shown in Figure 41.

Target wind profiles for the site, from each wind direction, were generated using sectoral analysis of the terrain surrounding the site and the local weather stations with ESDU 2010 Item01008 'Computer program for wind speeds and turbulent properties: flat or hilly sites in terrain with roughness changes'. The target wind profiles, compared to the wind speeds measured from the Wind Tunnel are shown in Figure 42 and compared to the measured turbulence intensities in Figure 43.

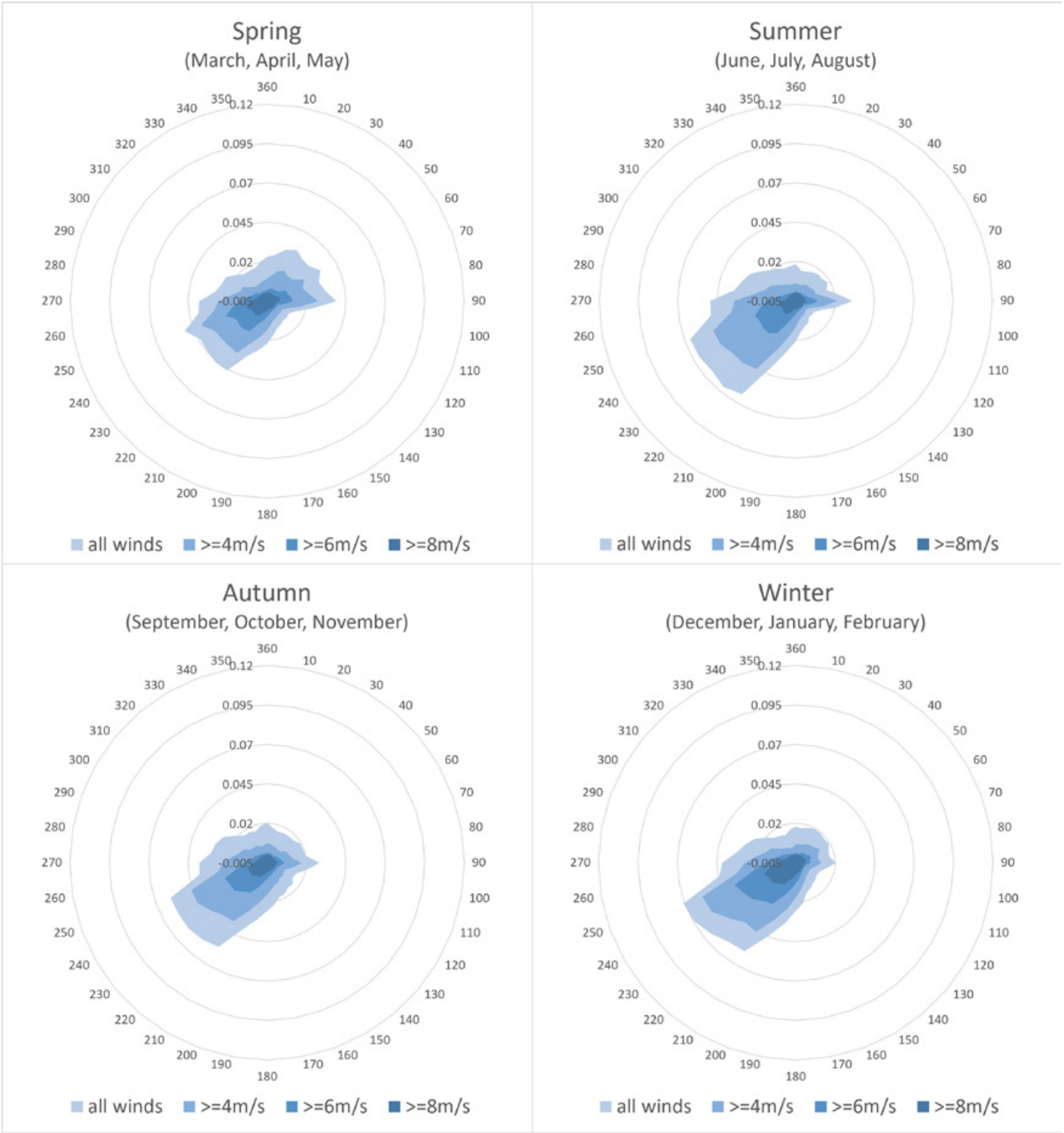

Fig. 41: Seasonal Wind Roses for London(Combined)

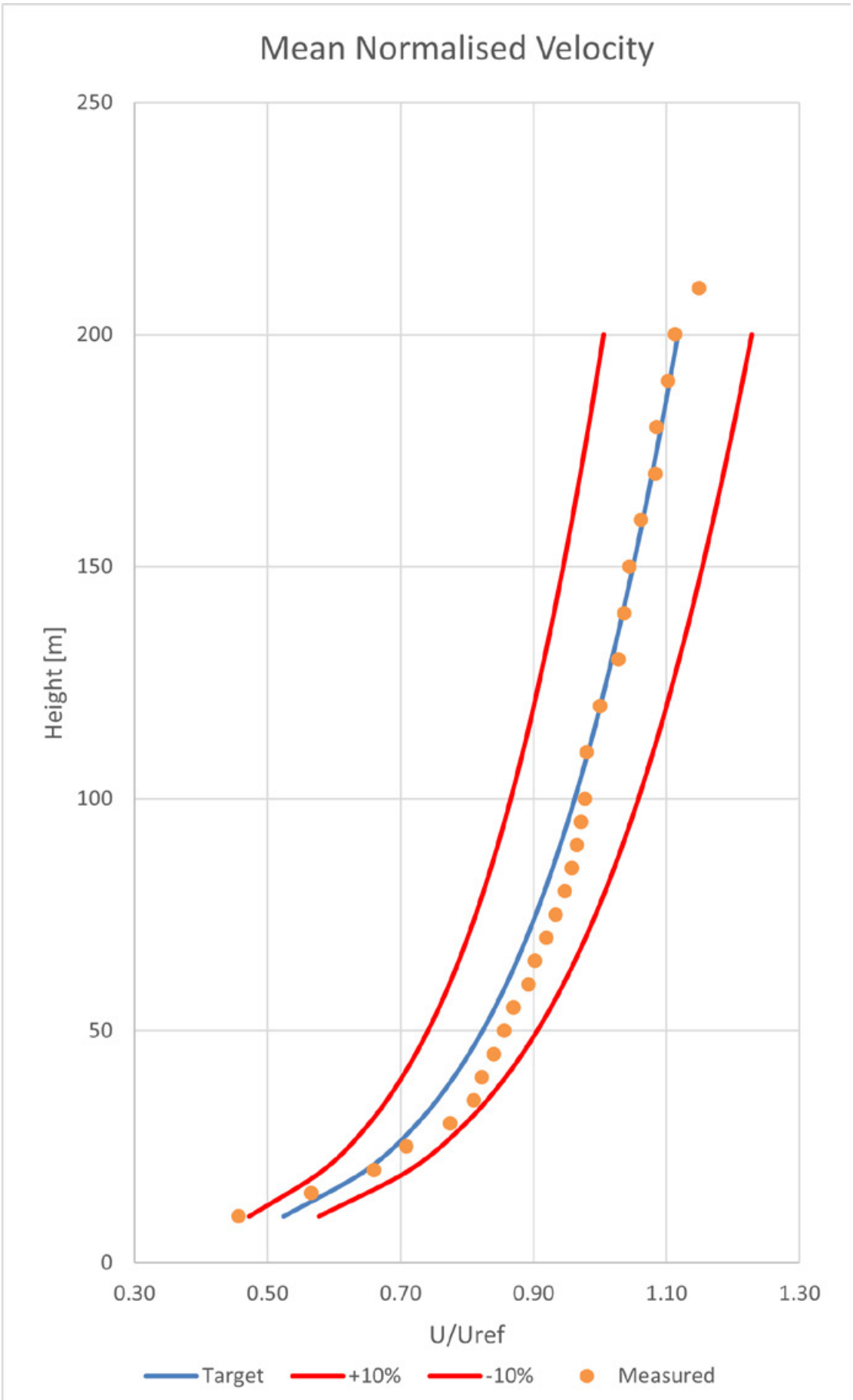

Fig. 42: Wind Profile (Velocity) for Ashley Park

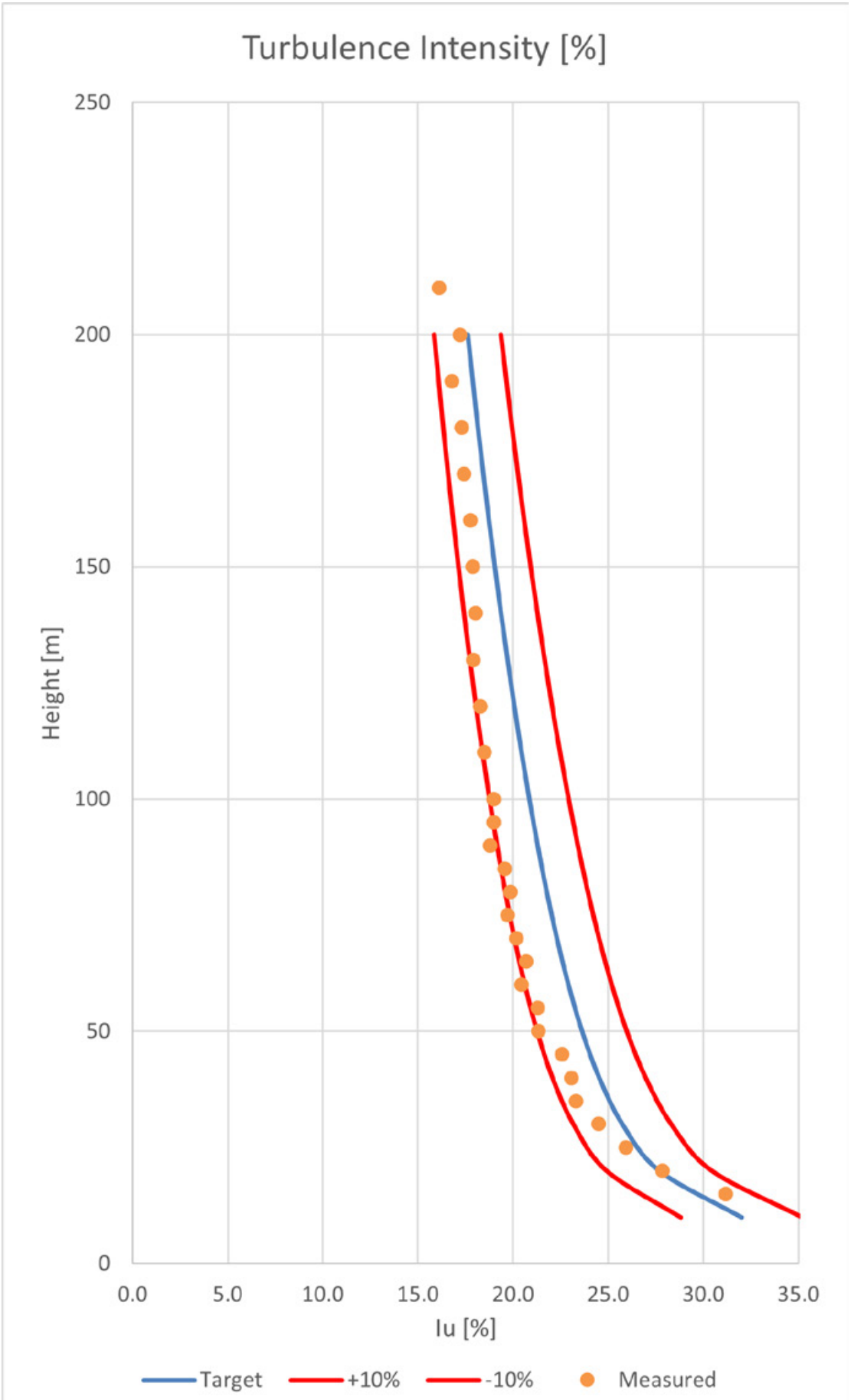

Fig. 43: Wind Profile (Turbulence Intensity) for Ashley Park

gia

What we do:

Climate & Resilience
Daylight & Sunlight
Flood Risk & Drainage
Light Obstruction Notices
Measured Surveys
Party Wall & Neighbourly Matters
Rights of Light
Solar PV
Wind Analysis

Where we are:

Belfast
Birmingham
Bristol
Dublin
London
Manchester

GIA SURVEYORS LIMITED incorporated and registered in England and Wales with company number **14032506** whose registered office is at **The Whitehouse, Belvedere Road, London SE1 8GA**