

# 08 Wind (Microclimate)

Figure 8-7 Configuration 2: Lawson Comfort Criteria - Proposed Development with 2018 Surrounds (Worst Case)

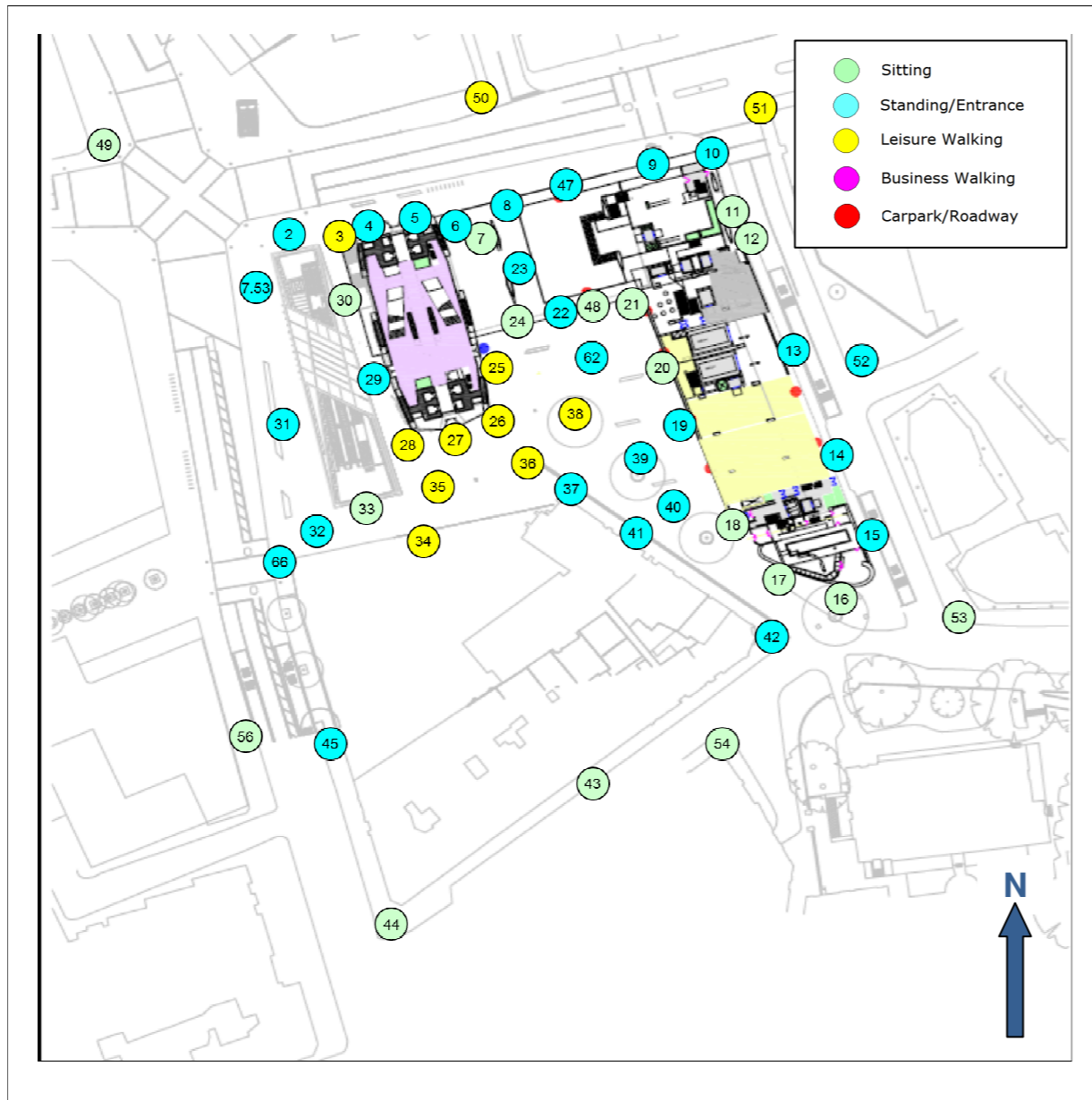
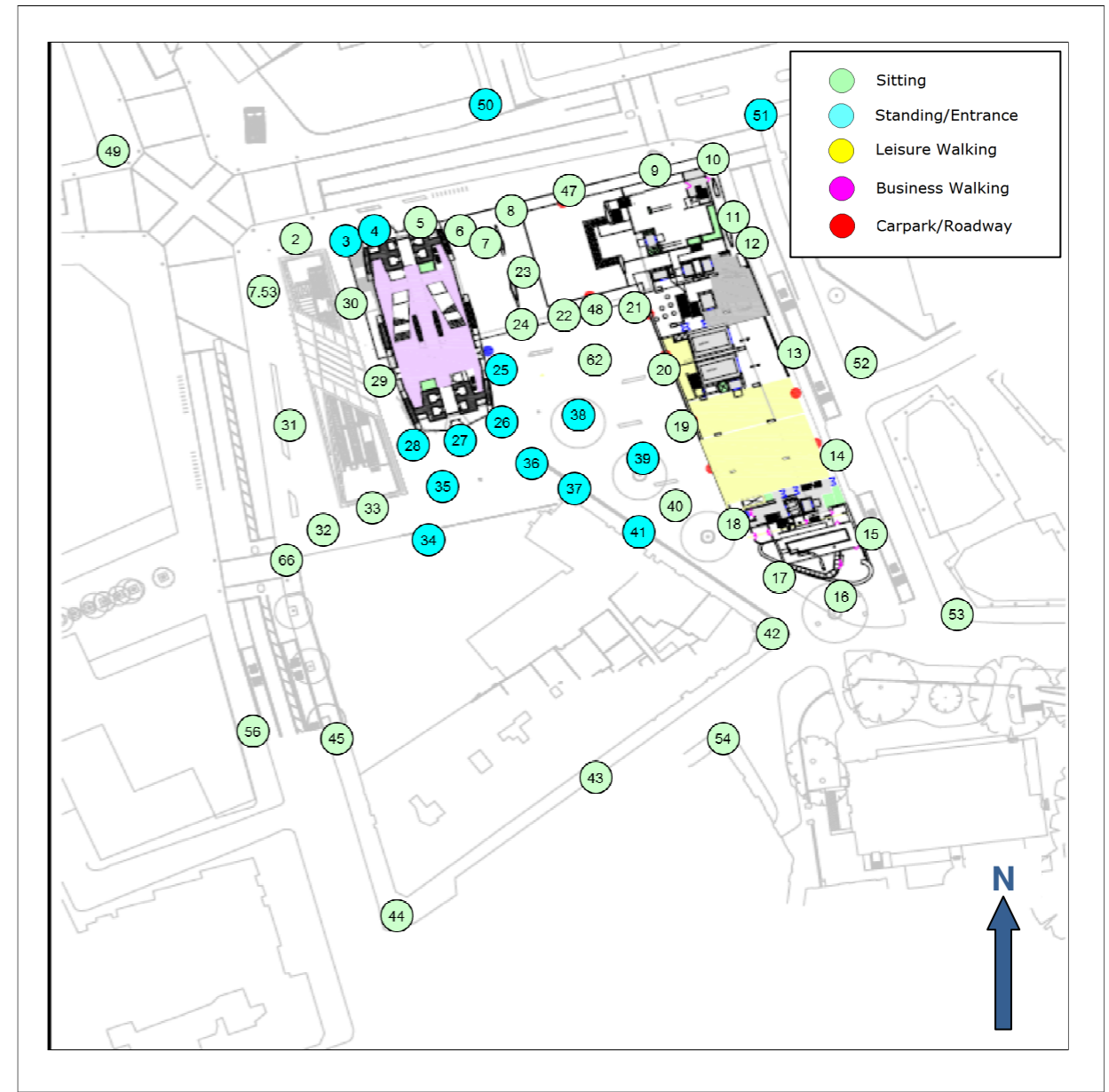


Figure 8-8 Configuration 2: Lawson Comfort Criteria Proposed Development with 2018 Surrounds (Summer Season)



# 08 Wind (Microclimate)

Figure 8-9 Configuration 2: Lawson Comfort Criteria Proposed Development with 2018 Surrounds (Summer Season) - Terrace

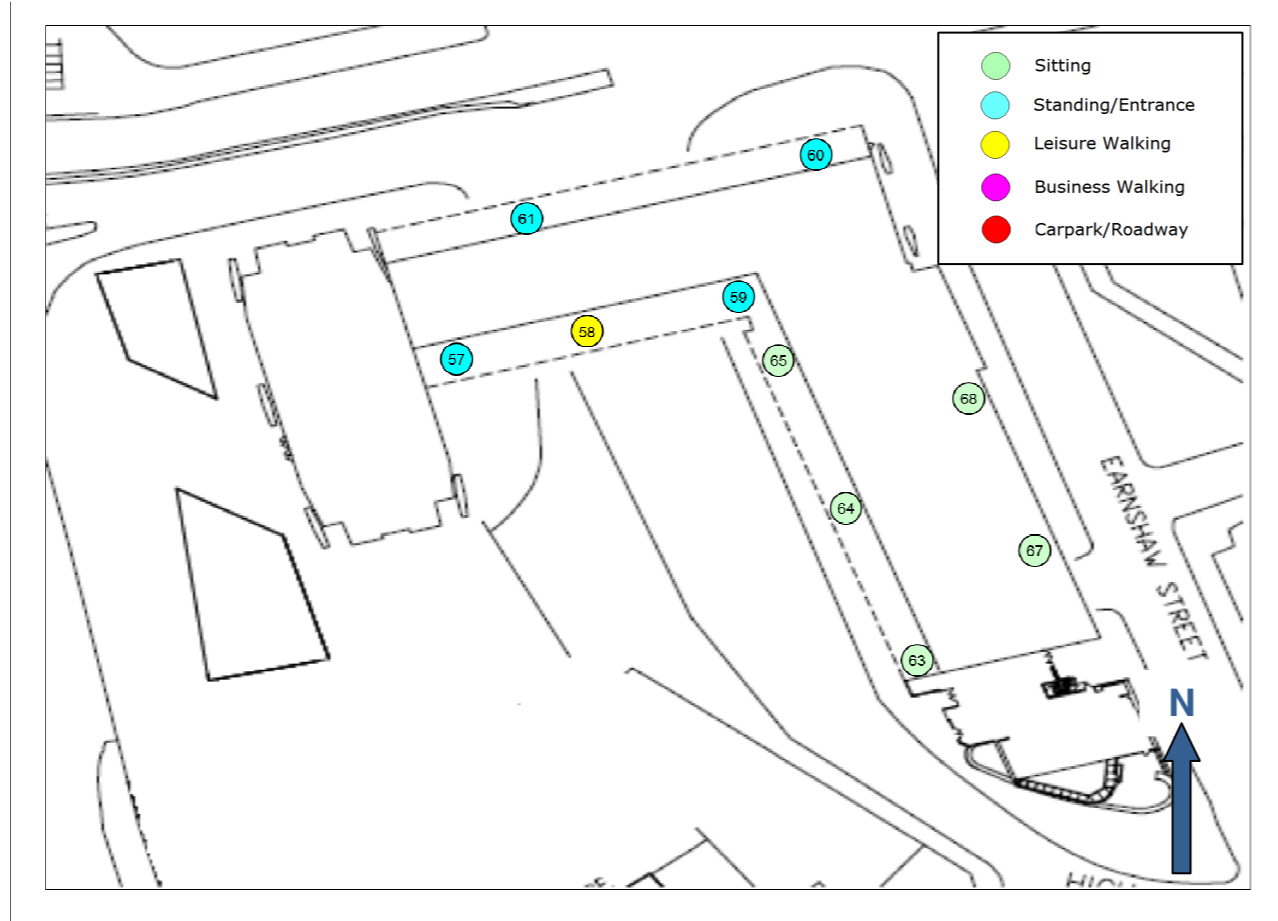
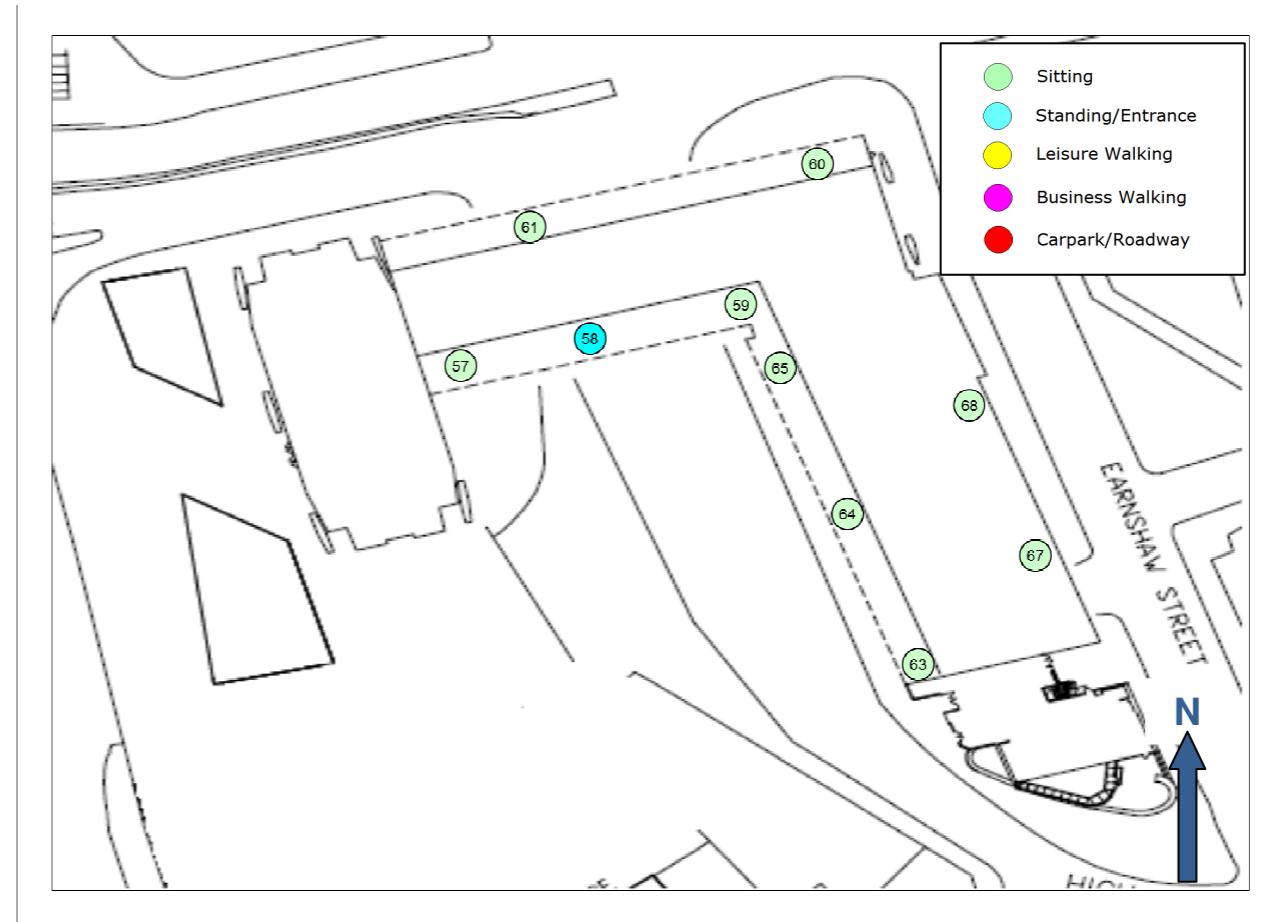


Figure 8-10 Configuration 2: Lawson Comfort Criteria Proposed Development with 2018 Surrounds (Summer Season) - Terrace



# 08 Wind (Microclimate)

## Strong Winds

8.50 There are five locations where the wind speed exceeds Beaufort Force 6 on occasion, details of which are presented in Table 8-6. These windier areas are similar to those of the baseline (Table 8-5) and are in areas where, during the windiest season, these occasional strong winds are unlikely to cause nuisance.

**Table 8-6 Annual Exceedance of Beaufort Force 6, 7, 8 and the most Frequent Wind Direction (Proposed Development)**

Location	Beaufort Force Exceedance	Direction	Hours per Annum
<b>Configuration 2 – Proposed Development with Existing Surrounds</b>			
3	B6	240	4.7
27	B6	40	2.2
28	B6	60	2.4
34	B6	240	1.6
50	B6	220	4.9

## Mitigation Measures

- 8.51 It is noted that the wind tunnel model did not incorporate any planting or other form of landscape screening in order to determine a worst-case, relatively windy, condition across the site. The presence of planting would usually have a beneficial effect on the wind microclimate, particularly during the summer when deciduous trees and shrubs are in-leaf.
- 8.52 On the pedestrian thoroughfares the wind microclimate is compatible with pedestrian walking and there are no recommendations for further mitigation.
- 8.53 Entrance locations have a wind microclimate that is suitable for sitting or standing/entrance use apart from location 25 on the east elevation of Centre Point Tower. The wind conditions at location 25 are near the threshold between the standing and leisure walking classifications and localised screening or landscaping in the vicinity of the entrance would create a localised, sheltered buffer zone outside this entrance. The shelter would make the wind microclimate suitable for an entrance and so will result in a **negligible** impact.
- 8.54 The wind microclimate in the public plaza to the south and east of Centre Point Tower is a mix of sitting and standing conditions in the summer. On the basis that the Plaza is used for meeting in its southern part and seating in the northeast zone, the significance of these results was considered to be negligible. No further recommendations for mitigation have therefore been made.

## Residual Impact Assessment and Conclusions

8.55 A wind tunnel assessment was conducted using a model devoid of landscape detail to determine the likely impacts of the Proposed Development on the local wind environment. The results were compared with the Lawson Comfort Criteria and focused on the windiest (i.e. winter) and summer seasons.

8.56 The results of the wind tunnel test have shown that the wind environment throughout the Proposed Development is largely compatible with the intended use of the site, however, localised mitigation measures have been recommended where adverse impacts were identified.

8.57 A Summary of the potential Impacts and equivalent residual impacts for the Proposed Development is presented in Table 8-7.

**Table 8-7 Summary of Residual Impacts**

Description	Impact Prior to Mitigation	Geographic Scale	Recommended Mitigation	Residual Impact
Wind impact along pedestrian thoroughfares	Negligible to Moderate Beneficial	Local	None	Negligible to Moderate Beneficial
Wind impact at building entrances	Minor Adverse to Minor Beneficial	Local	Localised screen / landscaping scheme	Negligible to Minor Beneficial
Wind impact in amenity areas	Negligible	Local	None	Negligible

## Cumulative Impact Assessment

### Potential Impacts for the Completed Development with Cumulative Surrounds

#### Configuration 3: Proposed Development and Cumulative Surrounding Buildings

- 8.58 The neighbouring Crossrail scheme was included as part of the baseline because it is currently under construction. The consented developments included in the testing were selected based on their proximity to the site. Significant Cumulative buildings in terms of wind that were included in the wind tunnel testing are as follows:
- One Denmark Square immediately south of the Centre Point Tower
- 8.59 Tests for Configuration 3 were conducted without any landscape planting on the wind tunnel model in order to obtain a conservative, i.e. a relatively windy, set of results. There was also no landscape detail included on neighbouring sites. The wind tunnel test results are presented in Figure 8-11 to 8-14 for the windiest season and summer season and the ground level and terrace level.
- 8.60 During the windiest season, the wind microclimate at ground level is summarised as:
- Thirteen locations are suitable for sitting;
  - Thirty one locations are suitable for standing; and
  - Twelve locations are suitable for leisure walking.
- 8.61 For the sensor locations at terrace level there were:
- Five locations suitable for sitting;
  - Four locations suitable for standing; and
  - One location suitable for leisure walking.
- 8.62 When compared with the baseline, during the windiest season:
- Locations 9, 25, 42, 51 and 60 are one category windier whereas

# 08 Wind (Microclimate)

- Locations 7, 12, 14, 21, 24, 30, 48, 63 and 64 are one category calmer

**8.63** The results are similar to those for Configuration 2 described in the Potential Effects section of this chapter.

## *Pedestrian Thoroughfares*

**8.64** In Figure 8-11 and Figure 8-13, the windiest conditions are suitable for leisure walking which is the target condition for a pedestrian thoroughfare. The significance of the impact of the measured wind microclimate on the pavements and thoroughfares around the site is therefore **negligible, minor beneficial** or **moderate beneficial** for leisure walking, standing and sitting classifications respectively. As reported for the baseline scenario there is a cluster of sample points to the south of the Centre Point Tower where the wind microclimate is suitable for leisure walking.