APPENDIX 1.4: WIND MICROCLIMATE – STATEMENT OF CONFORMITY

July 2020

Prepared for:

St William Homes LLP
St William Project Office
Olympia Trading Estate
Wood Green
N22 6T7

Clarendon Gas Works, Wood Green
Wind Microclimate – Statement of Conformity

Introduction

The October 2017 Environmental Statement (2017 ES), submitted in support of the hybrid planning application for the Clarendon Gas Works Development (application reference HGY/2017/3117), included a detailed wind microclimate assessment prepared by Urban Microclimate Ltd.

This assessment applied wind tunnel testing of a physical scale model, in conjunction with long-term wind statistics appropriate to the Site, to provide a detailed assessment of pedestrian and elevated level wind conditions in and around the Site based on the industry standard Lawson criteria for pedestrian safety and comfort.

For the plots submitted in outline, the wind tunnel testing was based on the illustrative scheme, as representative of the most likely final Site conditions. However, to ensure a robust assessment, the conclusions of the ES also considered the potential for additional effects within the constraints of the Parameter Plans. The ES further considered the effects of minor amendments applied to the illustrative scheme subsequent to the wind tunnel tests.

The current report considers the potential for any significant additional or different effects resulting from the updated Detailed Proposals for Blocks E1, E2 and E3, forming part of the Eastern Quarter.

In line with the 2019 Statement of Conformity, prepared for Block D and a previous detailed proposal for Block E, the potential for additional cumulative effects with the further consented development at the Iceland Site (application reference HGY/2017/2886), to the east of the Site, is also considered.

Urban Microclimate Limited
16 Torrington Gardens, Perivale, Middlesex UB6 7EN
Tel 0799 097 2510
Registered in England and Wales No. 9286534

Conclusions of 2017 ES

The ES concluded that the stepped massing and density of the Development, in conjunction with the existing embankment and warehouse to the west of the Site, encourages prevailing south-westerly winds to pass up and over the Development. In addition, the Development included proposals for substantial soft landscaping which helped alleviate channelling of pedestrian level winds, particularly in the west of the Site, within Hornsey Park Gardens Orchard and Building A4's courtyard.

Resulting pedestrian level wind conditions rated as safe for all users and the Development was considered to have negligible effect on pedestrian safety.

In terms of pedestrian comfort, wind conditions on thoroughfares were expected to be suitable for pedestrian passage through and around the Site.

Some of the illustrative scheme façade areas in the west of the Site were considered unsuitable for entrances. Otherwise, entrances to the Development, including all of Block E, were expected to be suitable for pedestrian ingress / egress.

Some of the amenity spaces in the west of the Site were considered suitable for general recreational uses, such as children's play, but slightly windy for outdoor seating. This included parts of the Building A4 courtyard and Hornsey Park Gardens Orchard. Otherwise, public and communal amenity spaces, including all of Block E, were expected to enjoy suitable conditions for associated recreational activities.

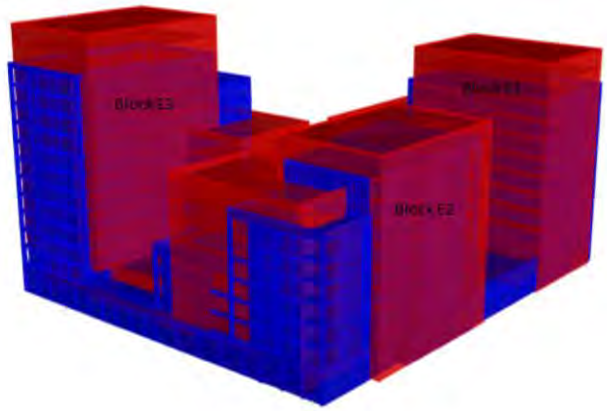
Private roof-top terraces and balconies were expected to be least tolerable for outdoor seating during summer.

Within the surrounding area, wind conditions were expected to remain suitable for existing activities and the Development was therefore considered to have negligible effect on surrounding wind conditions.

With the introduction of committed future surrounding developments, comprising the Chocolate Factory (reference HGY/2015/3226), wind effects in and around the Site were not materially changed.

Updated Detailed Proposals for Block E

The massing for the updated Detailed Proposals for Blocks E1, E2 and E3 are illustrated below, superimposed on the illustrative scheme modelled for the 2017 wind tunnel studies.



Where: Blue - illustrative scheme tested
Red - massing for Detailed Proposals

The maximum increase in height of the tallest part of each block is two storeys and, although there are some changes in both the footprints and heights of the blocks, the overall massing and layout of the Detailed Proposals is similar to the illustrative scheme tested in the 2017 ES. Blocks E1, E2 and E3 remain substantially sheltered from prevailing south-westerly winds, by the western blocks. The upper levels of Block E3 are more exposed to north-easterly winds, which are common in spring, but these winds are generally lighter than prevailing south-westerly winds.

Overall, the scale of the proposed massing changes is unlikely to significantly affect the flow of winds through the Site. Sensitivity checks on the measured wind speeds in around Blocks E1, E2 and E3 show that a substantially larger increase in pedestrian level wind speeds, than would be expected to occur due to the changes, could generally be accommodated without materially affecting the suitability of conditions for planned activities.

A possible exception to this is along the north elevation of Block E3 and the podium, opposite Block H3. Although conditions in this area are largely dictated by downdraughts from Block H3, the increase in height of Block E3 has potential to

exacerbate the subsequent channelling of westerly and easterly winds between the buildings. In addition, the proposed landscaping replaces large trees, previously included within the passage between Blocks E3 and H3, with smaller trees in planters. Despite this, conditions along the north elevation of Block E3 and the podium are expected to be suitable for short periods of standing or sitting throughout the year. Conditions are therefore expected to be suitable for pedestrian ingress / egress at the building entrances and for window shopping at the retail frontage, as well as pedestrian passage and short periods of waiting, such as for a meeting point.

On this basis, pedestrian level conditions in and immediately around the Detailed Proposals for Blocks E1, E2 and E3 are expected to be suitable for planned activities, including recreational activities within the courtyards and potential café spill-out seating on the west side of Block E2. The podium-top courtyard is also expected to enjoy suitable conditions for recreational uses, including outdoor seating.

The Block E1, E2 and E3 roof-top terraces were not included in the sample tested for the 2017 ES. However, the Block E1 and E2 roof terraces are significantly sheltered from prevailing south-westerly winds and benefit from soft landscaping, including trees, with tall shrub planting beneath, along parts of the southern and western edges, and hedges and planters across the central areas. Based on the sample of roof terraces tested, it is expected that these roof terraces will enjoy amenable conditions for recreational activities, including outdoor seating during at least summer.

The Block E3 roof terrace protrudes above surrounding blocks and has potential to channel prevailing south-westerly winds across the amenity space. The landscaping has therefore been purposefully developed to locally shelter the seating areas, with measures including a 2 m high, ~50% porous, screen across the centre and 1.5 m high, ~50% porous, backs to the benches, in addition to trees (with tall shrub planting beneath), hedges and planters. Resulting conditions are expected to be suitable for outdoor seating in the sheltered spaces and at least general recreational activities, such as for viewing or a play space for example, across the remainder of the terrace.

Overall, the roof-top terraces are expected to be generally suitable for planned uses, with private balconies being at least tolerable for outdoor seating during summer, in accordance with the conclusions of the 2017 ES.

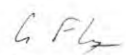
The additional cumulative scheme at the Iceland Site comprises a 6 to 9 storey residential building to the east of the Site. This development is likely to benefit from the sheltering effect (from prevailing south-westerly winds) of the Clarendon Gas Work Development. The Iceland Site has potential to channel north-easterly winds towards Block D, but spring conditions should remain suitable for proposed activities. There is also some potential for channelling of north-north-westerly and south-south-easterly winds between the developments, but these winds are relatively infrequent, are generally light, and are not expected to materially affect the overall conditions in terms of suitability for proposed uses. On this basis, no significant additional adverse cumulative effects are expected to occur.

Conclusions

On the basis of the above, the differences between the Detailed Proposals and the illustrative scheme considered for Blocks E1, E2 and E3 are not expected to significantly affect the suitability of wind conditions for existing and proposed activities in and around the Site, and the conclusions of the October 2017 ES are considered to remain valid.

In addition, no significant additional adverse cumulative effects with the Iceland Site development are expected.

Prepared by:



Dr Graeme Flynn
Director

Tel 0799 097 2510
Email gflynn@urban-microclimate.com
Website www.urban-microclimate.com

References

[i] HMSO, 2011. The Town and Country Planning (Environmental Impact Assessment) Regulations
[ii] HMSO, 2015. The Town and Country Planning (Environmental Impact Assessment) (Amendment) Regulations 2015
[iii] HMSO, 2017. The Town and Country Planning (Environmental Impact Assessment) Regulations 2017
[iv] HMSO, 2018. The Town and Country Planning (Environmental Impact Assessment) (Amendment) Regulations 2018