

**LOVE
DESIGN
STUDIO/O**

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February 2023

Omega Works B

Wind Microclimate Assessment

Contents

00	Executive Summary	3
01	Introduction	5
02	Policy & Methodology	8
03	Assessment	13
04	Mitigation	27
05	Conclusion	29
06	Appendices	31

Section Zero

O **Executive Summary**

Executive Summary

Love Design Studio have prepared this Wind Microclimate Assessment on behalf of CPGF Ltd (the applicant) as part of a planning application to the London Borough of Haringey (the Local Planning Authority) for land at 167 Hermitage Road, London, N4 1LZ, Omega Works B site.

The proposal is for the redevelopment of the site for a mixed-use scheme comprising 585 m² of employment use (use Class E) and 36 residential units (use class C3). Associated landscape works, cycle storage, 3x accessible car parks, children's play space and waste and refuse areas are also included in the proposal. A separate proposal is being put together for the adjoining Omega Works A site.

This assessment is a quantitative assessment of the likely wind conditions around the Proposed Development, both under the proposed condition (i.e. Omega Works B Proposed Development with existing Omega Works A buildings retained) and cumulative condition assuming development of the adjoining Omega Works A scheme. The report outlines the overall methodology and the use of the Lawson Comfort Criteria to assess the expected on-site wind conditions. The assessment is based upon analysis of meteorological conditions for London Heathrow.

The meteorological data for the Site (refer to Section 2) indicates prevailing winds predominantly from the south-west throughout the year. Winds from other directions do occur, and are considered within the assessment; however, their impact on the overall wind microclimate conditions tend to be low, due to being relatively infrequent (compared to the prevailing directions).

A total of 33 receptors were placed at locations around the Proposed Development and are referred to as off-site receptors; seven more off-site receptors (1AE to 7AE) were placed within the existing Omega Works A site. A further nine receptors were placed at locations within the Proposed Development and are referred to as on-site receptors. The locations include spaces assumed to be for sitting, standing, entrance doors, places for leisure walking, business walking and roads/car parks. Other than the play area on the fourth-floor roof of the western block, it was assumed that the upper roof levels with biodiversity roofs, solar panels and plant equipment will not be accessible by building occupants, so no receptors were placed at these elevations.

The chosen receptor locations were considered based on their sensitivity and distance from the Proposed Development and assumed pedestrian use.

Three of the off-site receptors (7, 12 and 15) were shown to experience a minor adverse impact compared to the baseline assessment, but wind speeds are still within the tolerable limits for the expected activities at these points.

Of the nine on-site receptors (48, 49 and 51 to 57), two locations (56 and 57) were deemed to require some form of mitigation measure to improve the wind microclimate conditions. The two receptor points located within the designated play area on the fourth-floor roof of the western block experience a major adverse impact, so mitigation will be required.

Mitigation measures by way of local landscaping, raised parapets, planting and canopies have been introduced to Omega Works B design and are likely to significantly reduce the risk of adverse impact to local conditions.

For the cumulative assessment, a further 14 receptors (34 to 47) were considered within the Omega Works A Proposed Development site.

The results of the cumulative wind assessment indicate one of the additional 14 receptors (45, located in the plants and bench area on the ground floor to the east of Omega Works A Block C)) experiences a moderate adverse impact and two others (46 and 47, located in the designated play area on the sixth-floor roof of Omega Works A Block B) experience a major adverse impact, so mitigation will be required.

Wind speeds at the off-site receptors are affected by the introduction of the Omega Works A Proposed Development in the cumulative assessment, with receptor points 7, 15 and 21 experiencing minor adverse impact instead of points 7, 12 and 15 in the proposed assessment, although wind speeds are still within the tolerable limited for the expected activities at these points.

Mitigation measures by way of local landscaping, raised parapets, planting and canopies have also been introduced to Omega Works A design and are likely to significantly reduce the risk of adverse impact to local conditions.

With the current design there are no anticipated significant issues related to wind microclimate anticipated on site or off site as a result of the Proposed Development.

Section One

1

Introduction

Introduction

This Wind Microclimate Assessment has been prepared on behalf of CPGF Ltd (the applicant) as part of a planning application to the London Borough of Haringey (the Local Planning Authority) for land at 167 Hermitage Road, London, N4 1LZ, Omega Works B site.

This report presents the findings of an assessment of the potential effects of the Proposed Development on the local wind microclimate at the Site and within the surrounding area. In particular, it considers the potential effects of wind on pedestrian comfort and summarises the findings.

The report sets out the relevant planning policies; the methods used to assess the potential effects; the baseline conditions currently existing at the Site and its immediate surrounds (off-site locations); and potential impacts on the wind microclimate of the Proposed Development and the cumulative impact of the Proposed Development along with future consented schemes in the local area, namely the proposed Omega Works A development.

Where appropriate, the mitigation measures required to prevent, reduce or offset any potential effects are identified.



Site Overview

Illustrated to the right is the proposed 1,344 m² site area for Omega Works B site. The site is bounded by Hermitage Road to the south, Omega Works A site to the west and the Crusader Industrial Estate to the north. The sites surrounding the proposal are a mixture of light industrial and residential.

The site lies within the jurisdiction of the London Borough of Haringey.

Within the site currently stands a mix of one- and two-storey brick industrial buildings.

The proposal is for the redevelopment of the site for a mixed-use scheme comprising 585 m² of employment use (use Class E) and 36 residential units (use class C3). Associated landscape works, cycle storage, 3x accessible car parks, children's play space and waste and refuse areas are also included in the proposal. A separate proposal is being put together for the adjoining Omega Works A site.



Section Two

2 Policy & Methodology

Policy and Guidance

National Policy and Guidance

National Planning Policy Framework (2021)

The National Planning Policy Framework was revised on 20 July 2021 and sets out the government's planning policies for England and how these are expected to be applied.

This revised Framework replaces the previous National Planning Policy Framework published in March 2012, revised in July 2018 and updated in February 2019.

There are no national planning policies within the National Planning Policy Framework (NPPF) directly relating to wind microclimate issues, however, the NPPF emphasises the benefits of a high quality built environment, for example: "126. The creation of high quality, beautiful and sustainable buildings and places is fundamental to what the planning and development process should achieve. Good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities. Being clear about design expectations, and how these will be tested, is essential for achieving this. So too is effective engagement between applicants, communities, local planning authorities and other interests throughout the process."

Regional Policy and Guidance

The London Plan (2021)

The general objectives for the London Plan, and the process for drawing it up, altering it and replacing it, are set out in the Greater London Authority Act 1999 (as amended) and the Town and Country Planning (London Spatial Development Strategy) Regulations 2000. The London Plan has been developed in line with these requirements.

Policy D8 Public Realm

"...G ensure buildings are of a design that activates and defines the public realm, and provides natural surveillance. Consideration should also be given to the local microclimate created by buildings, and the impact of service entrances and facades on the public realm.

J ensure that appropriate shade, shelter, seating and, where possible, areas of direct sunlight are provided, with other microclimatic considerations, including temperature and wind, taken into account in order to encourage people to spend time in a place..."

Policy D9 Tall buildings

"...3) environmental impact

- a) wind, daylight, sunlight penetration and temperature conditions around the building(s) and neighbourhood must be carefully considered and not compromise comfort and the enjoyment of open spaces, including water spaces, around the building..."

London Borough of Haringey

Haringey's development plan is currently made up of the Strategic Policies, Development Management Policies, Site Allocations and Tottenham Area Action Plan, alongside the London Plan. These documents set out a long-term spatial vision and objectives for the Borough, what is planned to happen, where and how it will be achieved.

Policy DM1: Delivering High Quality Design

"D Development proposals must ensure a high standard of privacy and amenity for the development's users and neighbours. The Council will support proposals that:...

- c) Address issues of vibration, noise, fumes, odour, light pollution and microclimatic conditions likely to arise from the use and activities of the development."

Policy DM6: Building Heights

"C Tall buildings will only be acceptable in areas identified on Figure 2.2 as being suitable for tall buildings. In addition to the requirements in (B) above, proposals for tall buildings should also:...

- b) Consider the impact on ecology and microclimate".

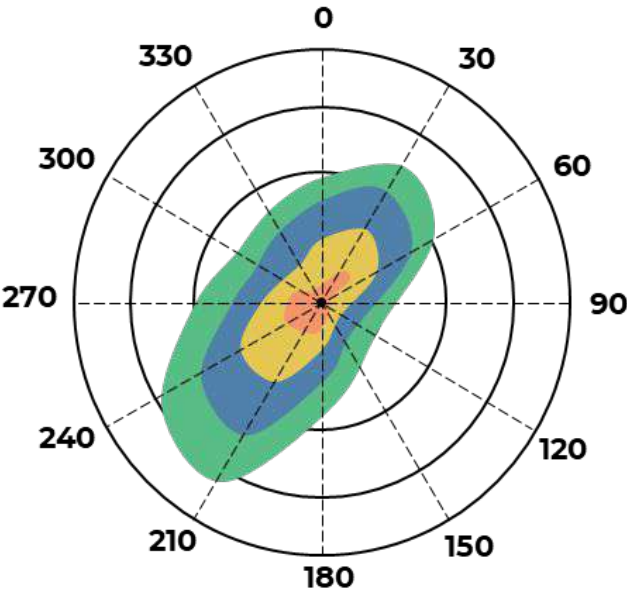
The Strategic Policies document states that "The Council has adopted the definition of Tall and Large Buildings as those which are substantially taller than their neighbours, have a significant impact on the skyline, or are of 10 storeys and over or are otherwise larger than the threshold sizes set for referral to the Mayor of London, as set out in the London Plan."

Meteorological Data

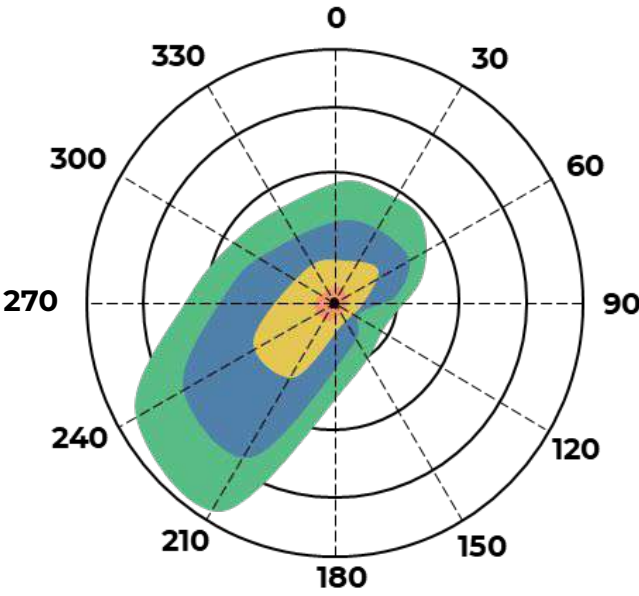
Meteorological data for London is derived from the meteorological stations at Heathrow Airport. The assessment focuses on winter, representing a ‘worst-case’ season.

The images below indicate the distribution of wind frequency and directionality for each season.

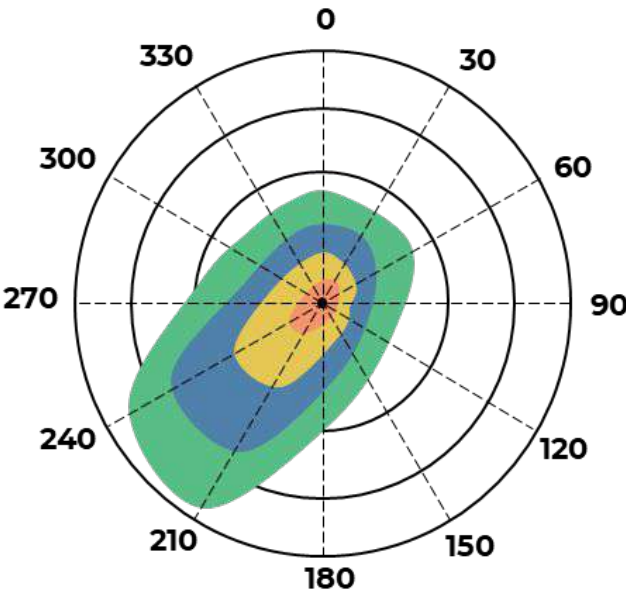
The meteorological data indicate that the prevailing wind direction throughout the year is from the southwest (i.e. 210 to 240 degrees on the compass); there is also a secondary peak for north-easterly winds. The combination of meteorological data, site altitude and velocity ratios permit the percentage of time that wind speeds are exceeded across the site. The locations can then be assessed using the Lawson Comfort Criteria, as per overleaf.



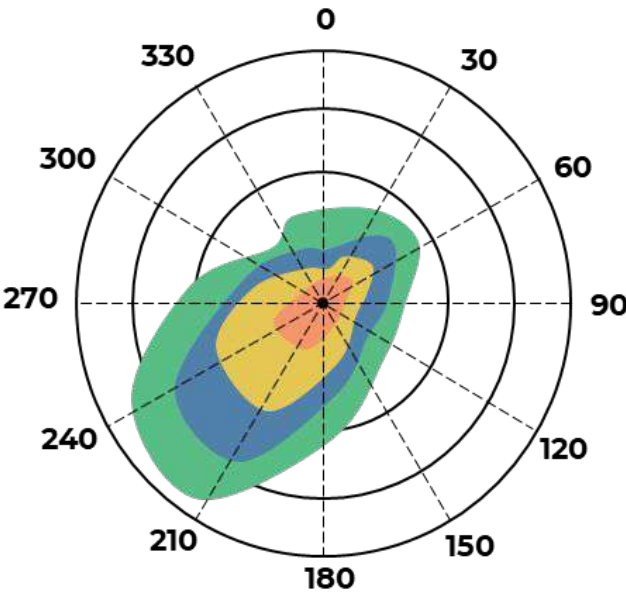
Spring



Summer



Autumn



Winter

London Heathrow Airport

Methodology

The Lawson Comfort Criteria reflect the fact the sedentary activity, such as sitting, requires a low wind speed whereas for more transient activity (such as walking) pedestrians would tolerate stronger winds.

If the wind conditions exceed the threshold then the conditions are deemed to be unacceptable for the stated activity. If the wind conditions are below the threshold then they are described as tolerable (or acceptable) for the stated activity. For example, if the wind speed exceeds Beaufort Force 4 (B4) for more than 4% of the time then the conditions would be unacceptable for leisure walking, as per tables to the right..

The probability of exceedance at a given location (for comparison against the Lawson Criteria) is calculated as follows. For each measurement location:

LDS measure the local wind speed for each wind angle using CFD simulation.

The reference height that is used as the top of the sky is greater than 100m above the ground, and the outer boundary is sufficiently far upwind so as not to be directly influenced by the modelled surrounding buildings.

LDS then multiply the factored wind speed ratio for each angle by the corresponding parameter scale factor. For each angle, the probability of exceedance is calculated for each threshold in the criteria (using the parameters for each season for comfort, and using the annual parameters for the safety threshold) using the below formula and summed across all angles to arrive at the total probability of exceedance for that season (typically winter to represent a worst-case situation).

$$F(x) = p \times e^{-\left(\frac{x}{c}\right)^k}$$

(Parameters c and k are the scale and shape factors respectively for use in calculating a Weibull probability distribution. Parameter p is the probability that wind will approach from a given direction. These parameters are used in combination with the measured local wind speeds from a CFD simulation to determine the probability of exceeding a given wind speed at a given measurement location during a given season.)

Description	Lawson Criteria Threshold	Activities that are Acceptable
Sitting	1% > B3	Pedestrians sitting for a long time.
Entrance Doors	6% > B3	Entering and exiting a building.
Standing	6% > B3	Standing or sitting for a short time.
Leisure Walking	4% > B4	Pedestrian walking / strolling / sightseeing.
Business Walking	2% > B5	People at work (e.g. maintenance)
Roads & Car Parks	6% > B5	Fast pedestrian walking e.g. walking to a destination / cycling.

Beaufort Force	Average Wind Speed (m/s)	Description
0	<1	Calm
1	1-2	Light air
2	2-3	Light breeze
3	4-5	Gentle breeze
4	6-8	Moderate breeze
5	9-11	Fresh breeze
6	11-14	Strong breeze
7	14-17	Near gale
8	17-21	Gale
9	21-24	Strong gale
10	25-28	Storm
11	29-32	Violent storm
12	33+	Hurricane

Methodology

Following the classification of effects, a statement of significance is then made as to whether effects are considered to be significant or not significant. Major, Moderate, Minor Beneficial and Negligible are considered to not be significant, while Major, Moderate and Minor Adverse are considered to be significant and will require mitigation.

This report contains images of the 3D CFD model used in the analysis (see Appendices).

Whether a condition is significant or not depends on whether the condition requires mitigation. The tables below and to the right include a column that defines if mitigation measures are necessary.

The significance of on-site measurement locations are defined by comparing the wind comfort/safety levels with the intended pedestrian activity at each location.

The significance of off-site measurement locations are defined not only by comparing the wind comfort levels with the intended pedestrian activity, but also by comparing the conditions to those experienced prior to the introduction of the Proposed Development (baseline).

On-site Receptors		Mitigation
Significance	Trigger	Required?
Major Adverse	Conditions are 'unsafe'	Yes
Moderate Adverse	Conditions are 'unsuitable' (in terms of comfort) for the intended pedestrian use.	Yes
Negligible	Conditions are 'suitable' for the intended pedestrian use.	No
Moderate Beneficial	Conditions are calmer than required for the intended pedestrian use (by at least one comfort category).	No

Off-site Receptors		Mitigation
Significance	Trigger	Required?
Major Adverse	Conditions that were 'safe' in the baseline scenario become 'unsafe' as a result of the Proposed Development. OR Conditions that were 'suitable' in terms of comfort in the baseline scenario become 'unsuitable' as a result of the Proposed Development. OR Conditions that were 'unsafe' in the baseline scenario are made worse as a result of the Proposed Development.	Yes
Moderate Adverse	Conditions that were 'suitable' in terms of comfort in the baseline scenario are made windier (by at least one comfort category) as a result of the Proposed Development, but remain 'suitable' for the intended pedestrian activity.	No
Negligible	Conditions remain the same as in the baseline scenario.	No
Major Beneficial	Conditions that were 'unsafe' in the baseline scenario become 'safe' as a result of the Proposed Development.	No
Moderate Beneficial	Conditions that were 'unsuitable' in terms of comfort in the baseline scenario become 'suitable' as a result of the Proposed Development. OR Conditions that were 'unsafe' in the baseline scenario are made better as a result of the Proposed Development (but not so as to make them 'safe').	No

Section Three

3 Assessment



- Sitting
- Entrance Doors
- Standing
- Leisure Walking
- Business Walking
- Roads & Car Parks

Receptor Locations: Off-site Receptors and Existing Omega Works A Site Receptors



Receptor Locations: Omega Works A Proposed GF Plan



- Sitting
- Entrance Doors
- Standing
- Leisure Walking
- Business Walking
- Roads & Car Parks

Receptor Locations: Omega Works A Block B Sixth-floor Roof Level Play Area

- Sitting
- Entrance Doors
- Standing
- Leisure Walking
- Business Walking
- Roads & Car Parks



Receptor Locations: Omega Works B Proposed GF Plan

- Sitting
- Entrance Doors
- Standing
- Leisure Walking
- Business Walking
- Roads & Car Parks

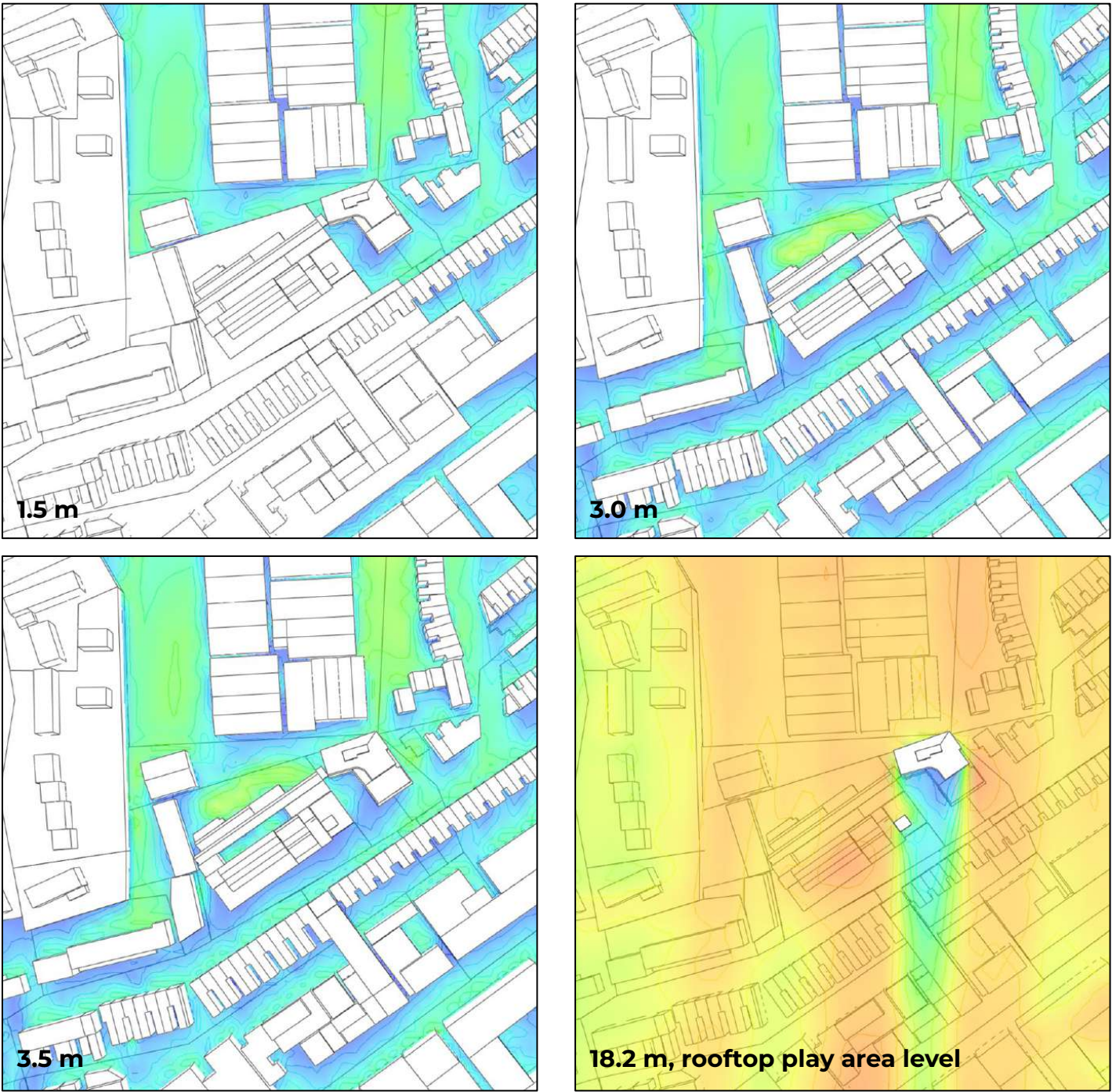


Receptor Locations: Omega Works B Fourth-floor Roof Level Play Area

Results

CFD Analysis was carried out for 12 directions for the baseline assessment (existing conditions), proposed assessment (with the proposed scheme in place) and cumulative assessment (with consented schemes included, namely Omega Works A).

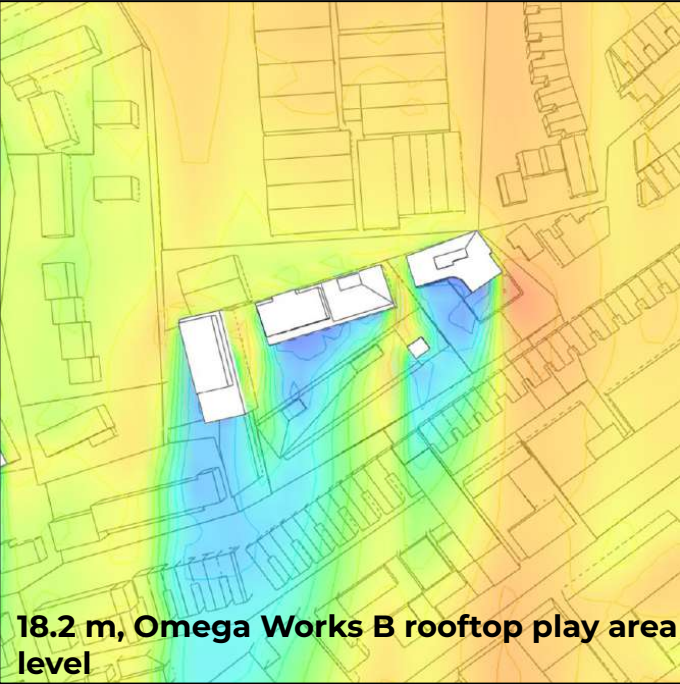
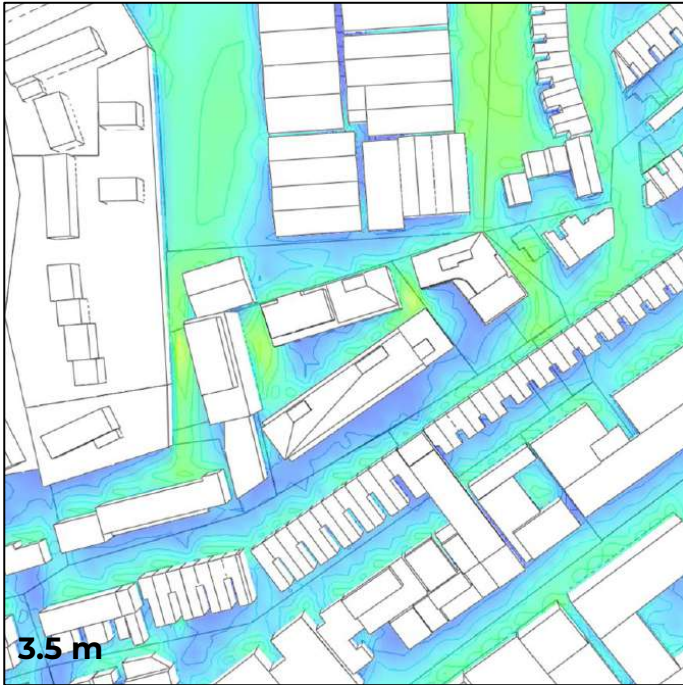
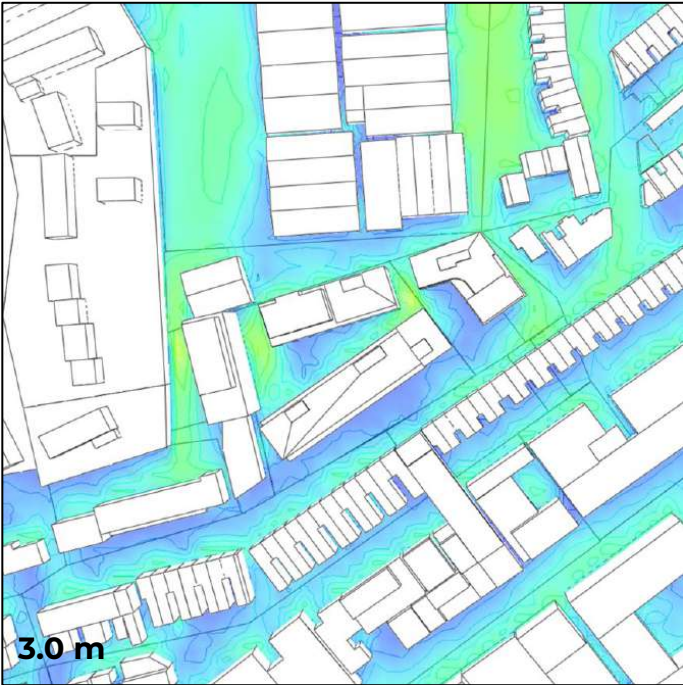
Please see below an excerpt from the 0deg (north) wind direction assessment for the proposed scheme conditions at elevations of 1.5 m, 3.0 m, 3.5 m and 18.2 m above above the model datum elevation. A full set of outputs from the modelling is presented in the Appendices.



Modelling Output: Proposed Development Assessment

Results

Please see below an excerpt from the 0deg (north) wind direction assessment for the cumulative scheme conditions at elevations of 1.5 m, 3.0 m, 3.5 m, 18.2 m and 24.5 m above the model datum elevation. A full set of outputs from the modelling is presented in the Appendices.



Modelling Output: Cumulative Assessment

Results

A total of 33 receptors were placed at locations around the Proposed Development and are referred to as off-site receptors; seven more off-site receptors (1AE to 7AE) were placed within the existing Omega Works A site. A further nine receptors were placed at locations within the Proposed Development and are referred to as on-site receptors. The locations include spaces assumed to be for sitting, standing, entrance doors, places for leisure walking, business walking and roads/car parks. Other than the play area on the fourth-floor roof of the western block, it was assumed that the upper roof levels with biodiversity roofs, solar panels and plant equipment will not be accessible by building occupants, so no receptors were placed at these elevations.

The chosen receptor locations were considered based on their sensitivity and distance from the Proposed Development and assumed pedestrian use.

Three of the off-site receptors (7, 12 and 15) were shown to experience a minor adverse impact compared to the baseline assessment, but wind speeds are still within the tolerable limits for the expected activities at these points.

Of the nine on-site receptors (48, 49 and 51 to 57), two locations (56 and 57) were deemed to require some form of mitigation measure to improve the wind microclimate conditions. The two receptor points located within the designated play area on the fourth-floor roof of the western block experience a major adverse impact, so mitigation will be required.

Mitigation measures by way of local landscaping, raised parapets, planting and canopies have been introduced to Omega Works B design and are likely to significantly reduce the risk of adverse impact to local conditions.

For the cumulative assessment, a further 14 receptors (34 to 47) were considered within the Omega Works A Proposed Development site.

The results of the cumulative wind assessment indicate one of the additional 14 receptors (45, located in the plants and bench area on the ground floor to the east of Omega Works A Block C)) experiences a moderate adverse impact and two others (46 and 47, located in the designated play area on the sixth-floor roof of Omega Works A Block B) experience a major adverse impact, so mitigation will be required.

Wind speeds at the off-site receptors are affected by the introduction of the Omega Works A Proposed Development in the cumulative assessment, with receptor points 7, 15 and 21 experiencing minor adverse impact instead of points 7, 12 and 15 in the proposed assessment, although wind speeds are still within the tolerable limited for the expected activities at these points.

Mitigation measures by way of local landscaping, raised parapets, planting and canopies have also been introduced to Omega Works A design and are likely to significantly reduce the risk of adverse impact to local conditions.

With the current design there are no anticipated significant issues related to wind microclimate anticipated on site or off site as a result of the Proposed Development.

Results

Analysis Results: Proposed Development Assessment (continued on next page)

ID	Location	Intended Use	Actual Wind Condition	Baseline Condition	Significance	Mitigation Required?
1	Off-site	Entrance Door	Standing	Standing	Negligible	No
2	Off-site	Sitting	Standing	Standing	Negligible	No
3	Off-site	Entrance Door	Sitting	Standing	Minor Beneficial	No
4	Off-site	Entrance Door	Standing	Standing	Negligible	No
5	Off-site	Leisure Walking	Standing	Standing	Negligible	No
6	Off-site	Entrance Door	Standing	Standing	Negligible	No
7	Off-site	Leisure Walking	Standing	Sitting	Minor Adverse	No
8	Off-site	Leisure Walking	Standing	Standing	Negligible	No
9	Off-site	Entrance Door	Standing	Standing	Negligible	No
10	Off-site	Roads & Car Parks	Sitting	Standing	Minor Beneficial	No
11	Off-site	Entrance Door	Standing	Standing	Negligible	No
12	Off-site	Leisure Walking	Standing	Sitting	Minor Adverse	No
13	Off-site	Sitting	Sitting	Sitting	Negligible	No
14	Off-site	Roads & Car Parks	Sitting	Sitting	Negligible	No
15	Off-site	Leisure Walking	Standing	Sitting	Minor Adverse	No
16	Off-site	Entrance Door	Sitting	Sitting	Negligible	No
17	Off-site	Entrance Door	Sitting	Sitting	Negligible	No
18	Off-site	Roads & Car Parks	Standing	Standing	Negligible	No
19	Off-site	Roads & Car Parks	Standing	Standing	Negligible	No
20	Off-site	Roads & Car Parks	Standing	Business Walking	Moderate Beneficial	No
21	Off-site	Roads & Car Parks	Sitting	Sitting	Negligible	No
22	Off-site	Entrance Door	Standing	Standing	Negligible	No
23	Off-site	Leisure Walking	Sitting	Standing	Minor Beneficial	No
24	Off-site	Sitting	Sitting	Standing	Minor Beneficial	No
25	Off-site	Leisure Walking	Sitting	Standing	Minor Beneficial	No

Results

Analysis Results: Proposed Development Assessment (continued)

ID	Location	Intended Use	Actual Wind Condition	Baseline Condition	Significance	Mitigation Required?
26	Off-site	Roads & Car Parks	Standing	Standing	Negligible	No
27	Off-site	Entrance Door	Sitting	Sitting	Negligible	No
28	Off-site	Roads & Car Parks	Sitting	Sitting	Negligible	No
29	Off-site	Roads & Car Parks	Sitting	Sitting	Negligible	No
30	Off-site	Business Walking	Standing	Standing	Negligible	No
31	Off-site	Business Walking	Sitting	Sitting	Negligible	No
32	Off-site	Entrance Door	Standing	Standing	Negligible	No
33	Off-site	Entrance Door	Sitting	Sitting	Negligible	No
48	On-Site	Entrance Door	Standing	N/A	Negligible	No
49	On-Site	Leisure Walking	Standing	N/A	Minor Beneficial	No
51	On-Site	Roads & Car Parks	Sitting	N/A	Major Beneficial	No
52	On-Site	Entrance Door	Standing	N/A	Negligible	No
53	On-Site	Standing	Standing	N/A	Negligible	No
54	On-Site	Entrance Door	Standing	N/A	Negligible	No
55	On-Site	Leisure Walking	Standing	N/A	Minor Beneficial	No
56	Podium	Sitting	Roads & Car Parks	N/A	Major Adverse	Yes
57	Podium	Standing	Roads & Car Parks	N/A	Major Adverse	Yes
1AE	On-Site	Roads & Car Parks	Sitting	Sitting	Major Beneficial	No
2AE	On-Site	Entrance Door	Standing	Standing	Negligible	No
3AE	On-Site	Entrance Door	Standing	Standing	Negligible	No
4AE	On-Site	Business Walking	Standing	Standing	Moderate Beneficial	No
5AE	On-Site	Roads & Car Parks	Leisure Walking	Leisure Walking	Moderate Beneficial	No
6AE	On-Site	Entrance Door	Leisure Walking	Leisure Walking	Minor Adverse	No
7AE	On-Site	Business Walking	Leisure Walking	Leisure Walking	Minor Beneficial	No

Results

Analysis Results: Cumulative Assessment (continued on next page)

ID	Location	Intended Use	Actual Wind Condition	Baseline Condition	Significance	Mitigation Required?
1	Off-site	Entrance Door	Standing	Standing	Negligible	No
2	Off-site	Sitting	Sitting	Standing	Minor Beneficial	No
3	Off-site	Entrance Door	Standing	Standing	Negligible	No
4	Off-site	Entrance Door	Sitting	Standing	Minor Beneficial	No
5	Off-site	Leisure Walking	Standing	Standing	Negligible	No
6	Off-site	Entrance Door	Sitting	Standing	Minor Beneficial	No
7	Off-site	Leisure Walking	Standing	Sitting	Minor Adverse	No
8	Off-site	Leisure Walking	Standing	Standing	Negligible	No
9	Off-site	Entrance Door	Standing	Standing	Negligible	No
10	Off-site	Roads & Car Parks	Standing	Standing	Negligible	No
11	Off-site	Entrance Door	Sitting	Standing	Minor Beneficial	No
12	Off-site	Leisure Walking	Sitting	Sitting	Negligible	No
13	Off-site	Sitting	Sitting	Sitting	Negligible	No
14	Off-site	Roads & Car Parks	Sitting	Sitting	Negligible	No
15	Off-site	Leisure Walking	Standing	Sitting	Minor Adverse	No
16	Off-site	Entrance Door	Sitting	Sitting	Negligible	No
17	Off-site	Entrance Door	Sitting	Sitting	Negligible	No
18	Off-site	Roads & Car Parks	Standing	Standing	Negligible	No
19	Off-site	Roads & Car Parks	Sitting	Standing	Minor Beneficial	No
20	Off-site	Roads & Car Parks	Sitting	Business Walking	Major Beneficial	No
21	Off-site	Roads & Car Parks	Standing	Sitting	Minor Adverse	No
22	Off-site	Entrance Door	Standing	Standing	Negligible	No
23	Off-site	Leisure Walking	Sitting	Standing	Minor Beneficial	No
24	Off-site	Sitting	Sitting	Standing	Minor Beneficial	No
25	Off-site	Leisure Walking	Sitting	Standing	Minor Beneficial	No

Analysis results presented in the table on this page and the following two pages are for the cumulative assessment and include receptor points 34 to 47 which are located within the Omega Works A Proposed Development site.

Results

Analysis Results: Cumulative Assessment (continued on next page)

ID	Location	Intended Use	Actual Wind Condition	Baseline Condition	Significance	Mitigation Required?
26	Off-site	Roads & Car Parks	Sitting	Standing	Minor Beneficial	No
27	Off-site	Entrance Door	Sitting	Sitting	Negligible	No
28	Off-site	Roads & Car Parks	Sitting	Sitting	Negligible	No
29	Off-site	Roads & Car Parks	Sitting	Sitting	Negligible	No
30	Off-site	Business Walking	Standing	Standing	Negligible	No
31	Off-site	Business Walking	Sitting	Sitting	Negligible	No
32	Off-site	Entrance Door	Standing	Standing	Negligible	No
33	Off-site	Entrance Door	Sitting	Sitting	Negligible	No
34	On-site	Roads & Car Parks	Standing	N/A	Major Beneficial	No
35	On-site	Leisure Walking	Standing	N/A	Minor Beneficial	No
36	On-site	Entrance Door	Standing	N/A	Negligible	No
37	On-site	Roads & Car Parks	Standing	N/A	Major Beneficial	No
38	On-site	Entrance Door	Standing	N/A	Negligible	No
39	On-site	Standing	Standing	N/A	Negligible	No
40	On-site	Sitting	Standing	N/A	Minor Adverse	Yes
41	On-site	Entrance Door	Sitting	N/A	Minor Beneficial	No
42	On-site	Entrance Door	Sitting	N/A	Minor Beneficial	No
43	On-site	Entrance Door	Standing	N/A	Negligible	No
44	On-site	Leisure Walking	Standing	N/A	Minor Beneficial	No
45	On-site	Sitting	Leisure Walking	N/A	Moderate Adverse	Yes
46	Podium	Sitting	Roads & Car Parks	N/A	Major Adverse	Yes
47	Podium	Standing	Roads & Car Parks	N/A	Major Adverse	Yes

Results

Analysis Results: Cumulative Assessment (continued)

ID	Location	Intended Use	Actual Wind Condition	Baseline Condition	Significance	Mitigation Required?
48	On-site	Entrance Door	Standing	N/A	Negligible	No
49	On-site	Leisure Walking	Standing	N/A	Minor Beneficial	No
50	On-site	Leisure Walking	Standing	N/A	Minor Beneficial	No
51	On-site	Roads & Car Parks	Sitting	N/A	Major Beneficial	No
52	On-site	Entrance Door	Standing	N/A	Negligible	No
53	On-site	Standing	Sitting	N/A	Minor Beneficial	No
54	On-site	Entrance Door	Sitting	N/A	Minor Beneficial	No
55	On-site	Leisure Walking	Sitting	N/A	Moderate Beneficial	No
56	Podium	Sitting	Business Walking	N/A	Major Adverse	Yes
57	Podium	Standing	Business Walking	N/A	Moderate Adverse	Yes

Section Four

4 Mitigation



Receptor Locations: Proposed Landscaping Plan (Mitigation Measures)

	Intended Use	Mitigation Measure(s)
56	Sitting	Raised parapet, landscaping, planting and canopy
57	Standing	Raised parapet, landscaping, planting and canopy

Section Five

5 Conclusion

Conclusion

Love Design Studio have prepared this Wind Microclimate Assessment on behalf of CPGF Ltd (the applicant) as part of a planning application to the London Borough of Haringey (the Local Planning Authority) for land at 167 Hermitage Road, London, N4 1LZ, Omega Works B site.

The proposal is for the redevelopment of the site for a mixed-use scheme comprising 585 m² of employment use (use Class E) and 36 residential units (use class C3). Associated landscape works, cycle storage, 3x accessible car parks, children's play space and waste and refuse areas are also included in the proposal. A separate proposal is being put together for the adjoining Omega Works A site.

This assessment is a quantitative assessment of the likely wind conditions around the Proposed Development, both under the proposed condition (i.e. Omega Works B Proposed Development with existing Omega Works A buildings retained) and cumulative condition assuming development of the adjoining Omega Works A scheme. The report outlines the overall methodology and the use of the Lawson Comfort Criteria to assess the expected on-site wind conditions. The assessment is based upon analysis of meteorological conditions for London Heathrow.

The meteorological data for the Site (refer to Section 2) indicates prevailing winds predominantly from the south-west throughout the year. Winds from other directions do occur, and are considered within the assessment; however, their impact on the overall wind microclimate conditions tend to be low, due to being relatively infrequent (compared to the prevailing directions).

A total of 33 receptors were placed at locations around the Proposed Development and are referred to as off-site receptors; seven more off-site receptors (1AE to 7AE) were placed within the existing Omega Works A site. A further nine receptors were placed at locations within the Proposed Development and are referred to as on-site receptors. The locations include spaces assumed to be for sitting, standing, entrance doors, places for leisure walking, business walking and roads/car parks. Other than the play area on the fourth-floor roof of the western block, it was assumed that the upper roof levels with biodiversity roofs, solar panels and plant equipment will not be accessible by building occupants, so no receptors were placed at these elevations.

The chosen receptor locations were considered based on their sensitivity and distance from the Proposed Development and assumed pedestrian use.

Three of the off-site receptors (7, 12 and 15) were shown to experience a minor adverse impact compared to the baseline assessment, but wind speeds are still within the tolerable limits for the expected activities at these points.

Of the nine on-site receptors (48, 49 and 51 to 57), two locations (56 and 57) were deemed to require some form of mitigation measure to improve the wind microclimate conditions. The two receptor points located within the designated play area on the fourth-floor roof of the western block experience a major adverse impact, so mitigation will be required.

Mitigation measures by way of local landscaping, raised parapets, planting and canopies have been introduced to Omega Works B design and are likely to significantly reduce the risk of adverse impact to local conditions.

For the cumulative assessment, a further 14 receptors (34 to 47) were considered within the Omega Works A Proposed Development site.

The results of the cumulative wind assessment indicate one of the additional 14 receptors (45, located in the plants and bench area on the ground floor to the east of Omega Works A Block C)) experiences a moderate adverse impact and two others (46 and 47, located in the designated play area on the sixth-floor roof of Omega Works A Block B) experience a major adverse impact, so mitigation will be required.

Wind speeds at the off-site receptors are affected by the introduction of the Omega Works A Proposed Development in the cumulative assessment, with receptor points 7, 15 and 21 experiencing minor adverse impact instead of points 7, 12 and 15 in the proposed assessment, although wind speeds are still within the tolerable limited for the expected activities at these points.

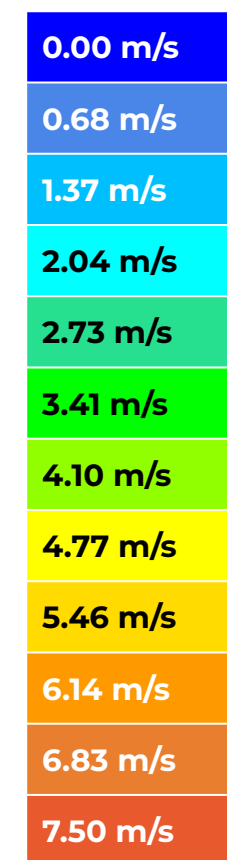
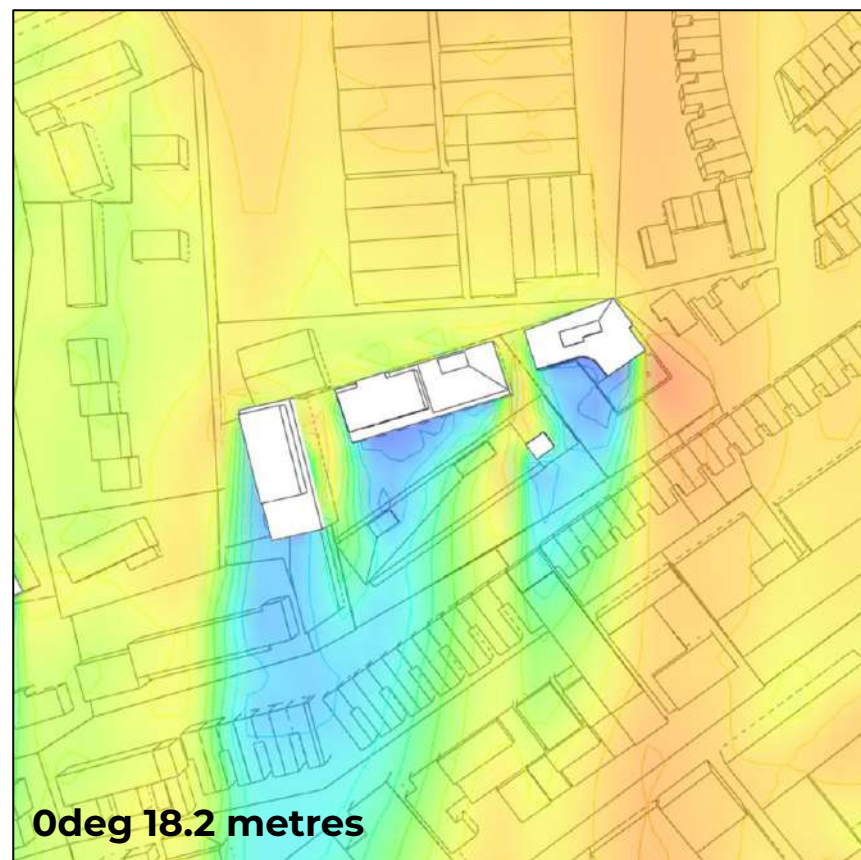
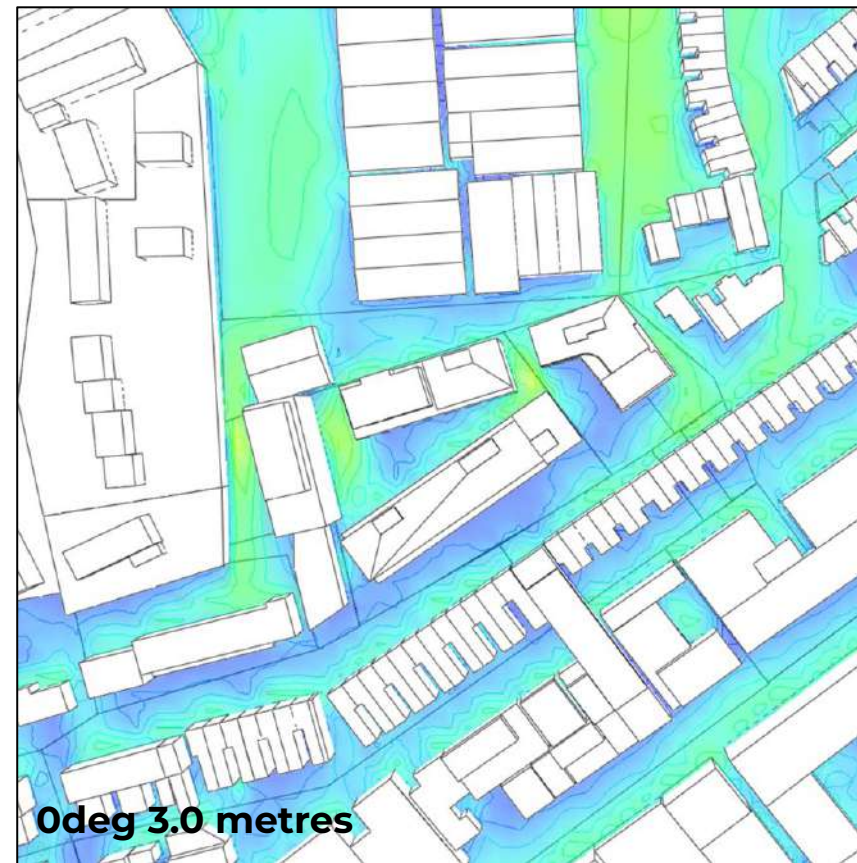
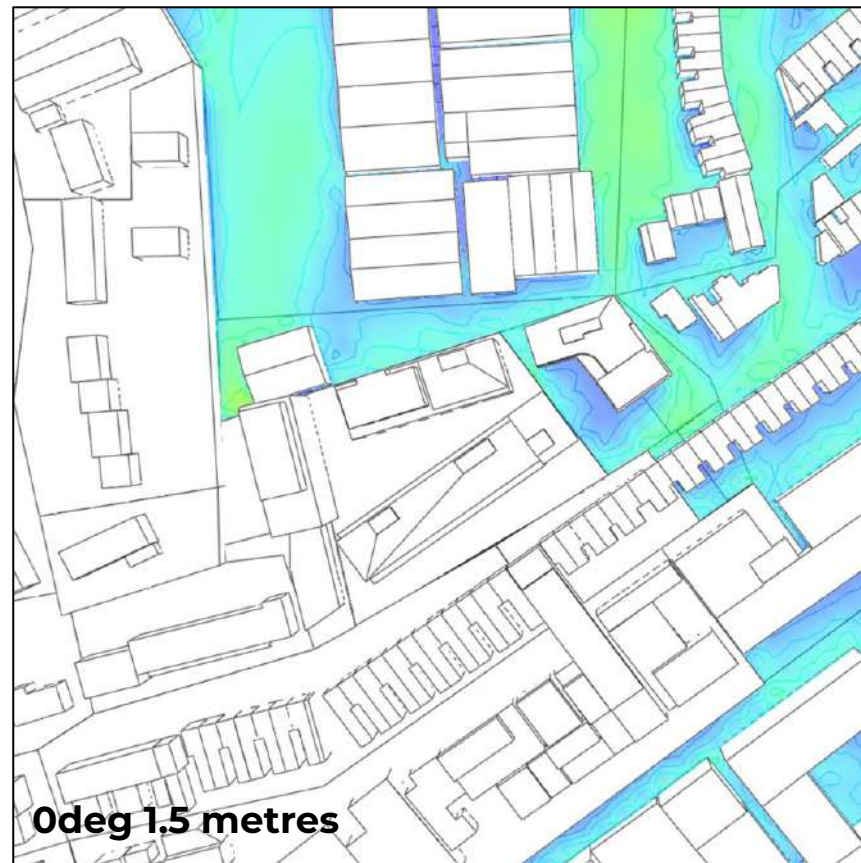
Mitigation measures by way of local landscaping, raised parapets, planting and canopies have also been introduced to Omega Works A design and are likely to significantly reduce the risk of adverse impact to local conditions.

With the current design there are no anticipated significant issues related to wind microclimate anticipated on site or off site as a result of the Proposed Development.

Section Six

6 Appendices

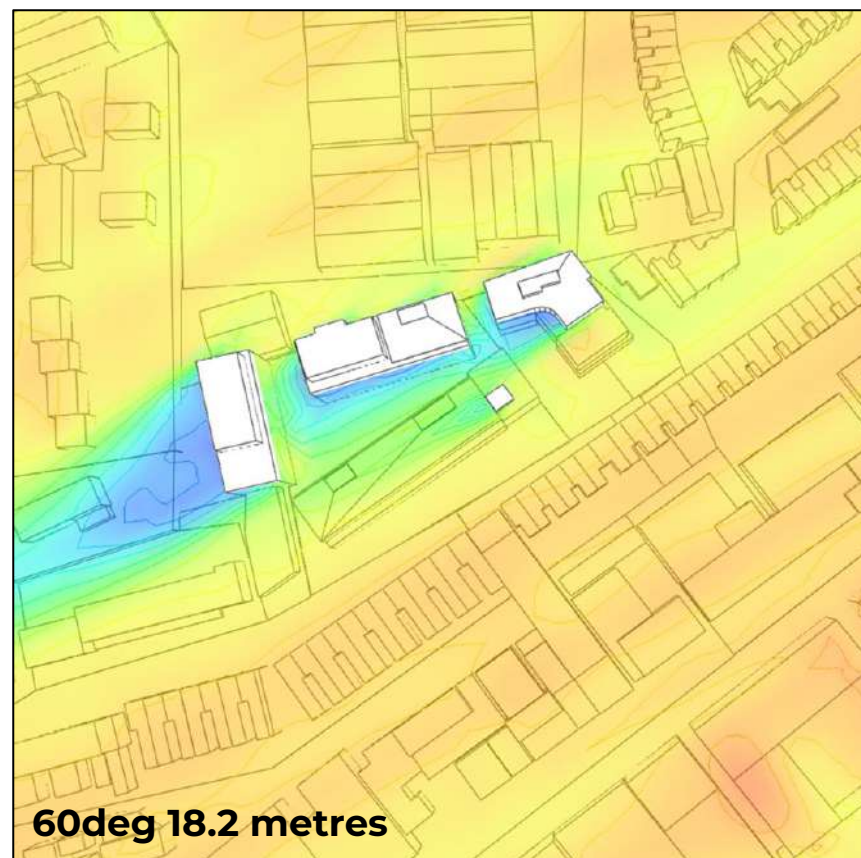
Appendix A - Cumulative Assessment 0deg



Appendix A - Cumulative Assessment 30deg



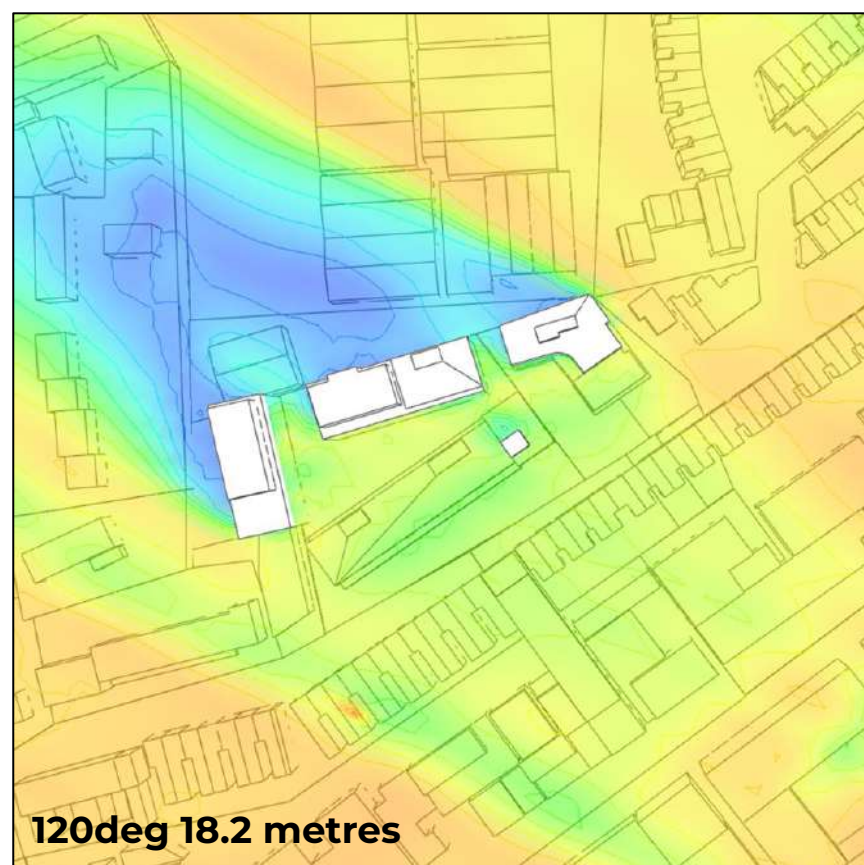
Appendix A - Cumulative Assessment 60deg



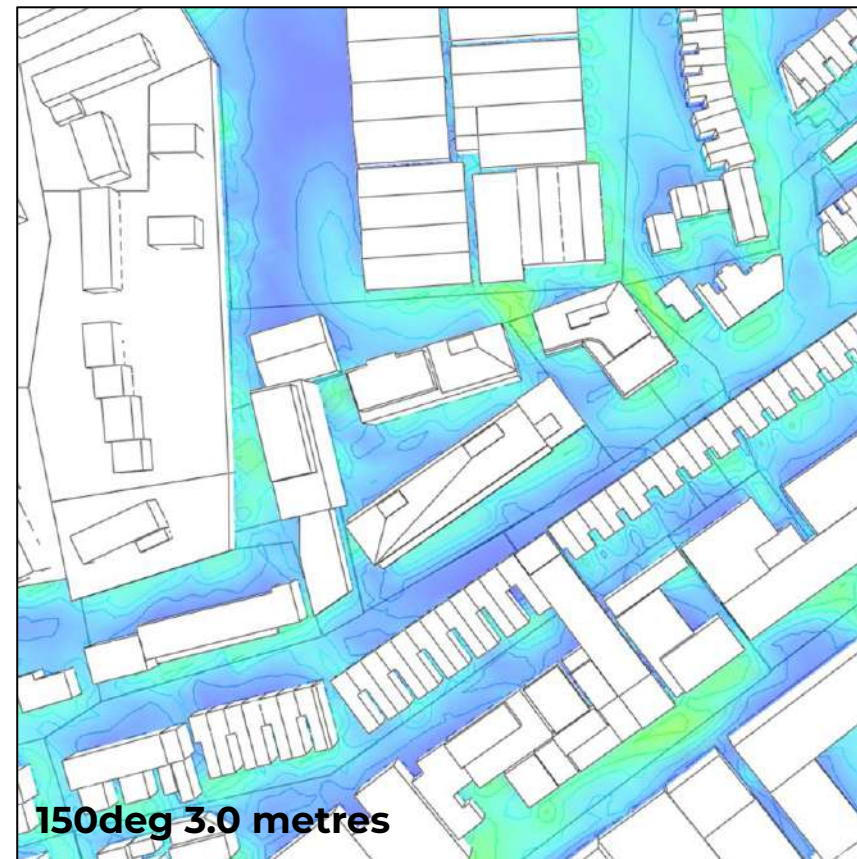
Appendix A - Cumulative Assessment 90deg



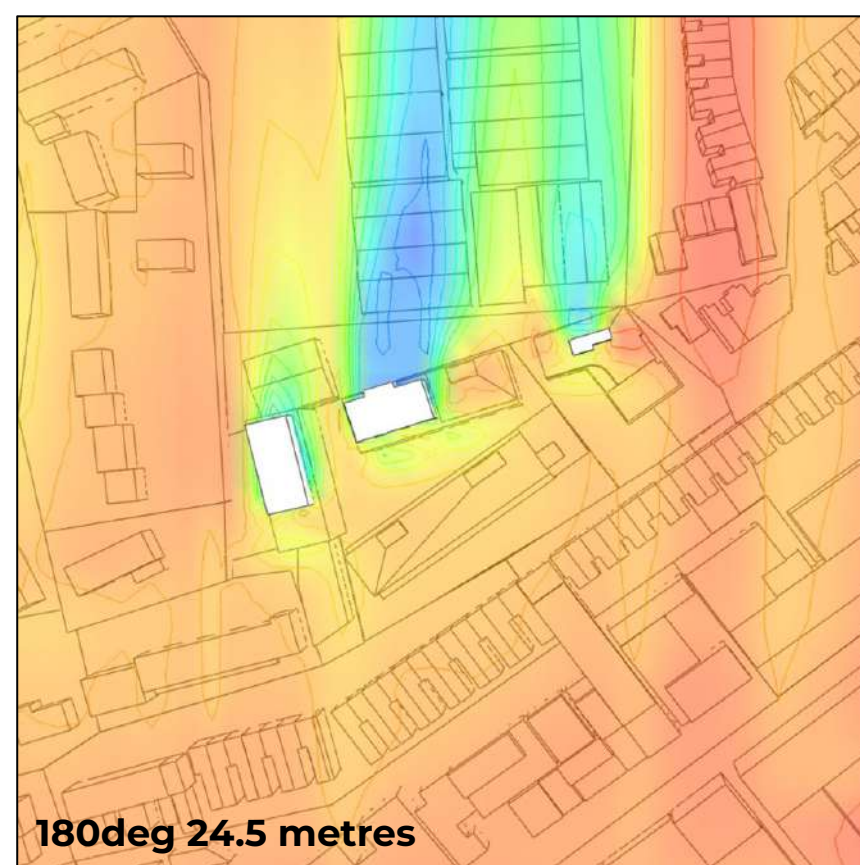
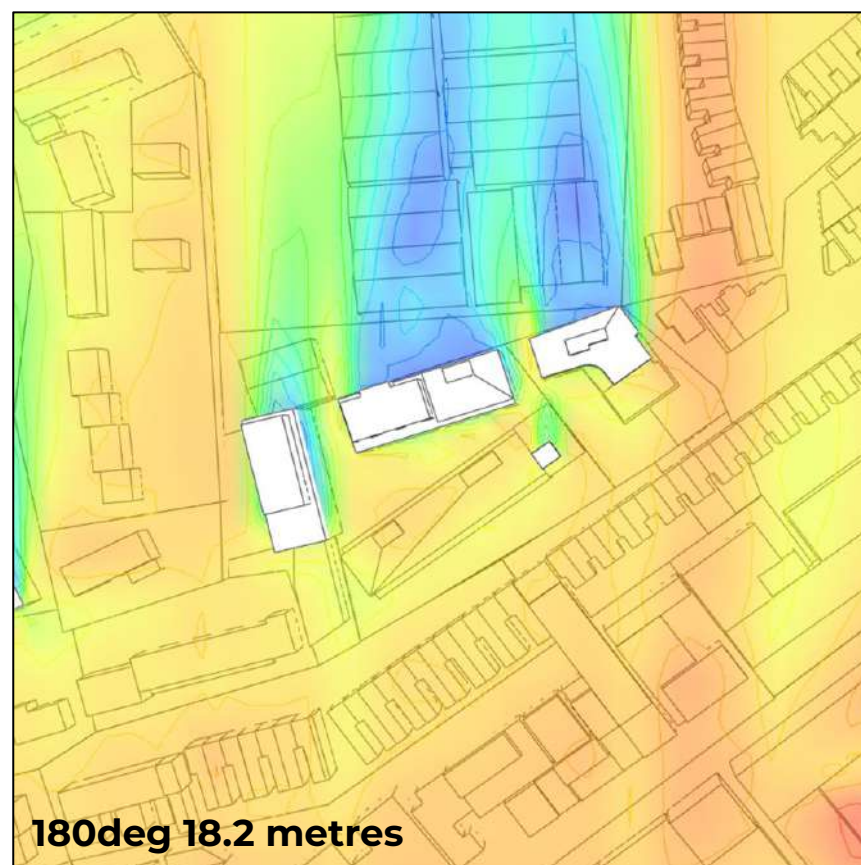
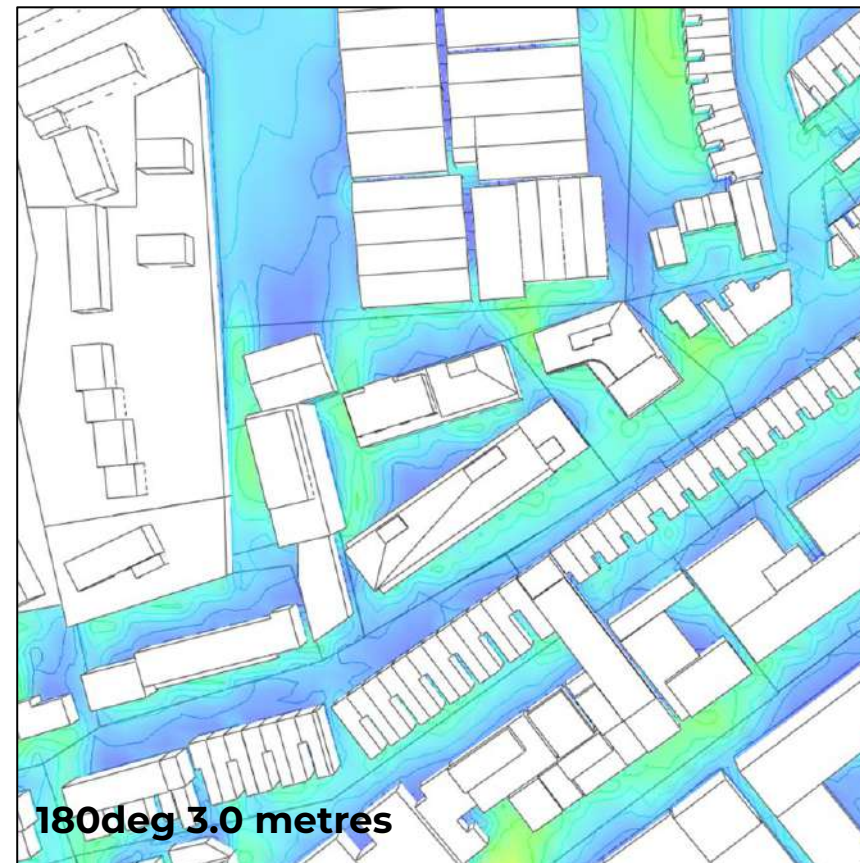
Appendix A - Cumulative Assessment 120deg



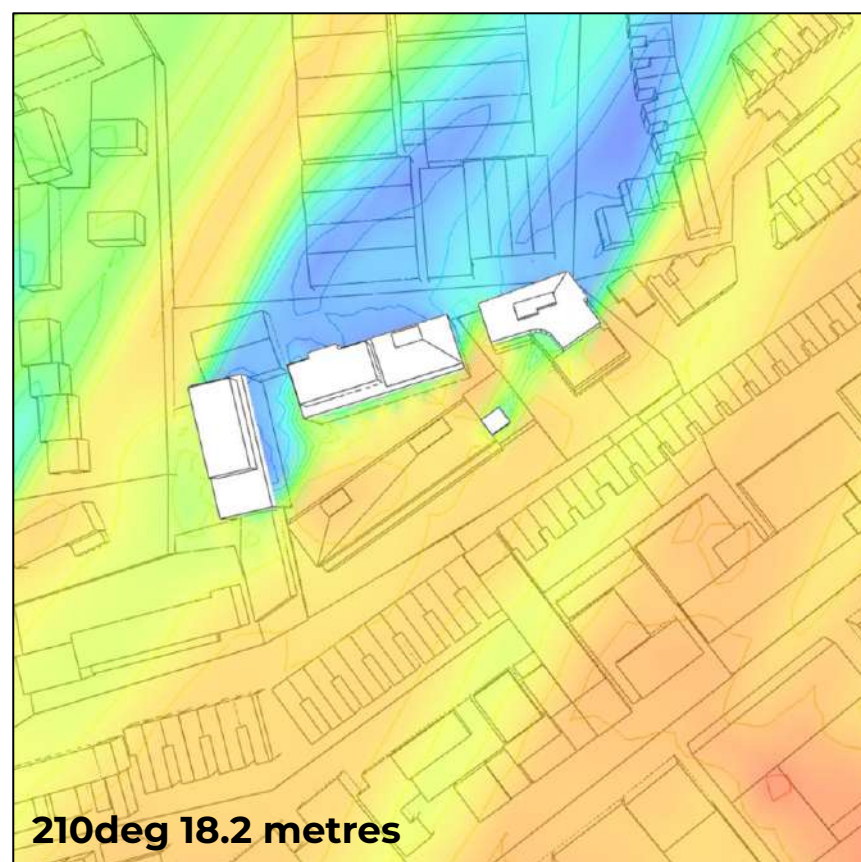
Appendix A - Cumulative Assessment 150deg



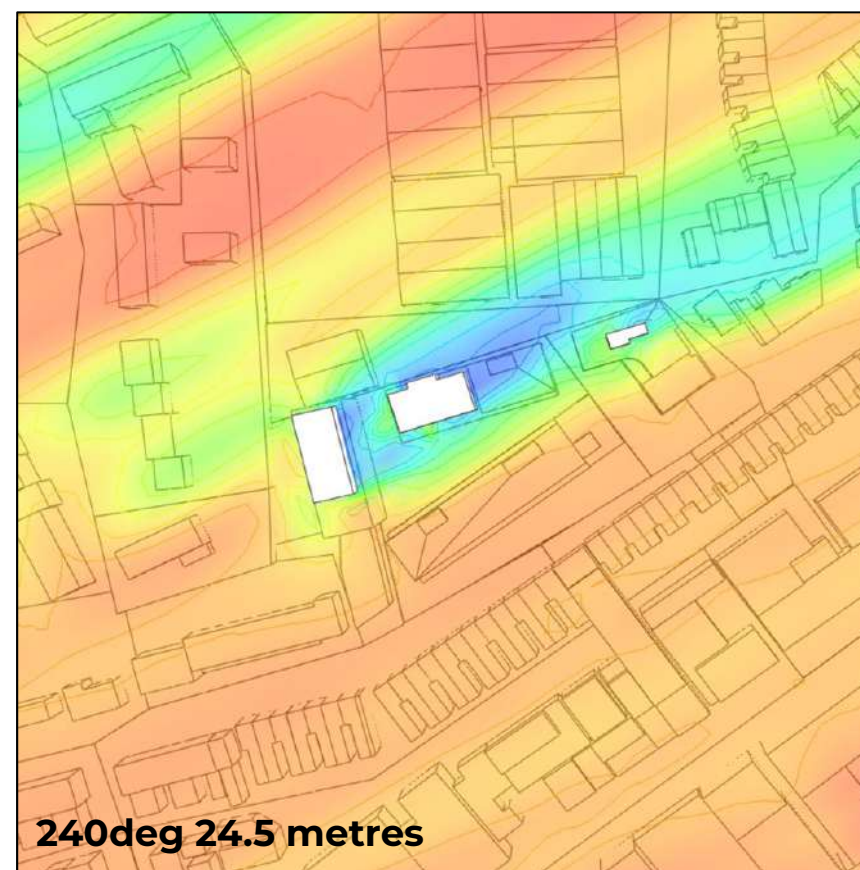
Appendix A - Cumulative Assessment 180deg



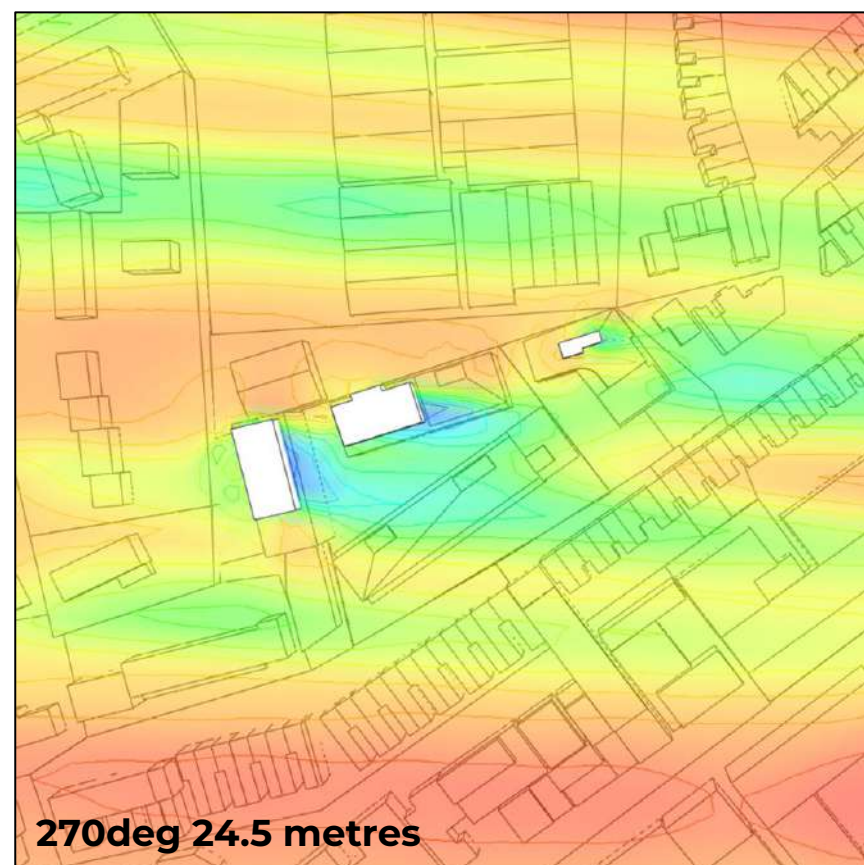
Appendix A - Cumulative Assessment 210deg



Appendix A - Cumulative Assessment 240deg



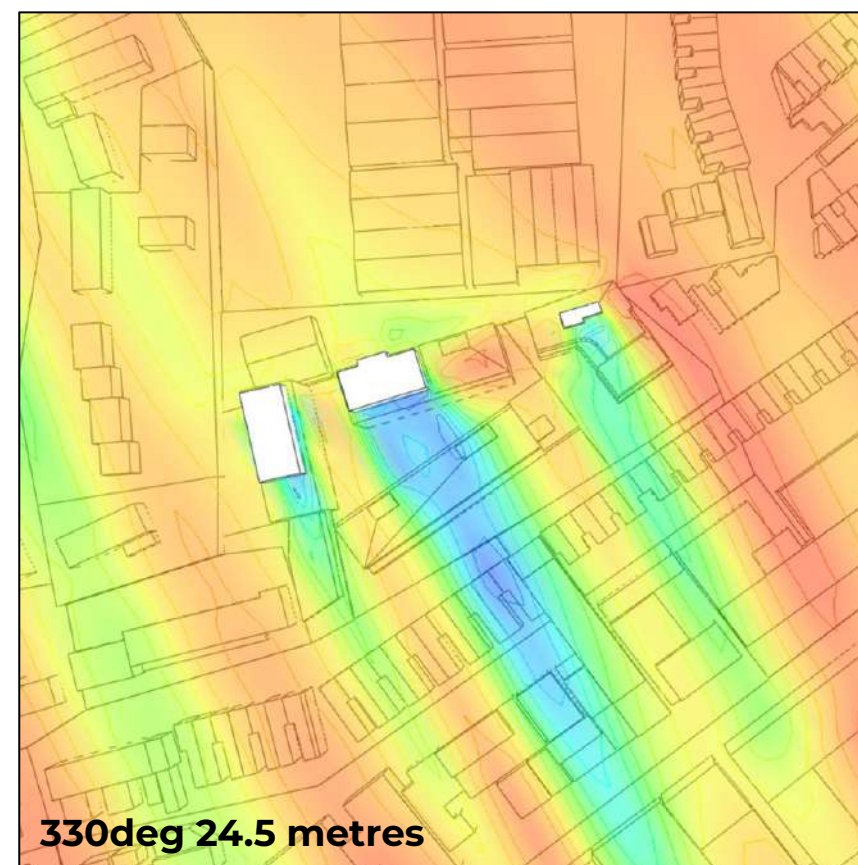
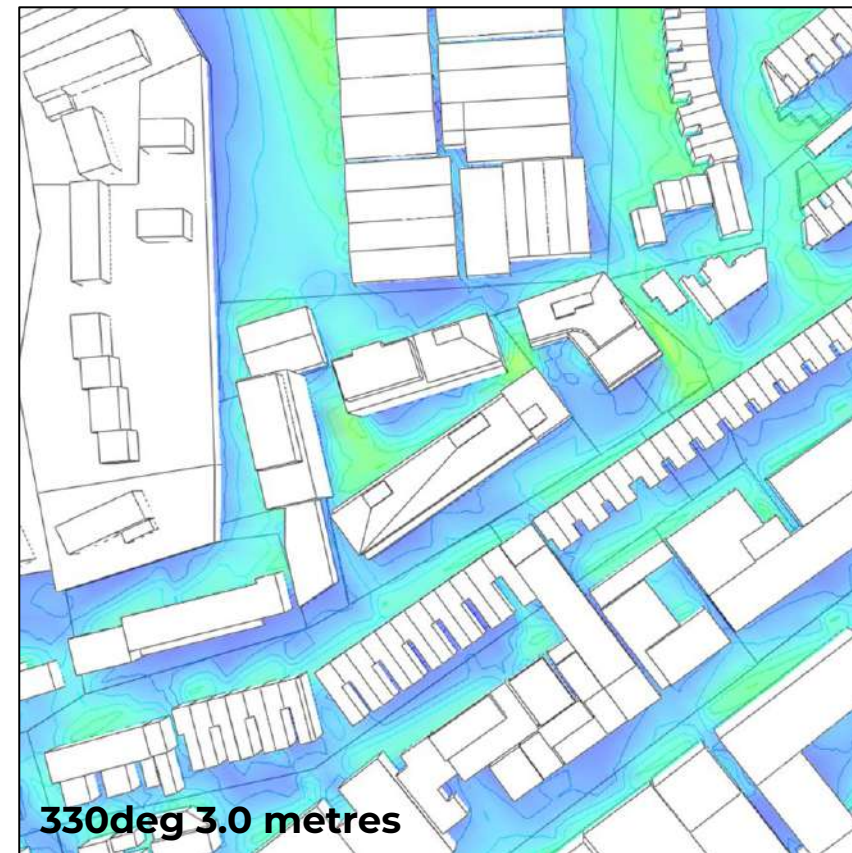
Appendix A - Cumulative Assessment 270deg



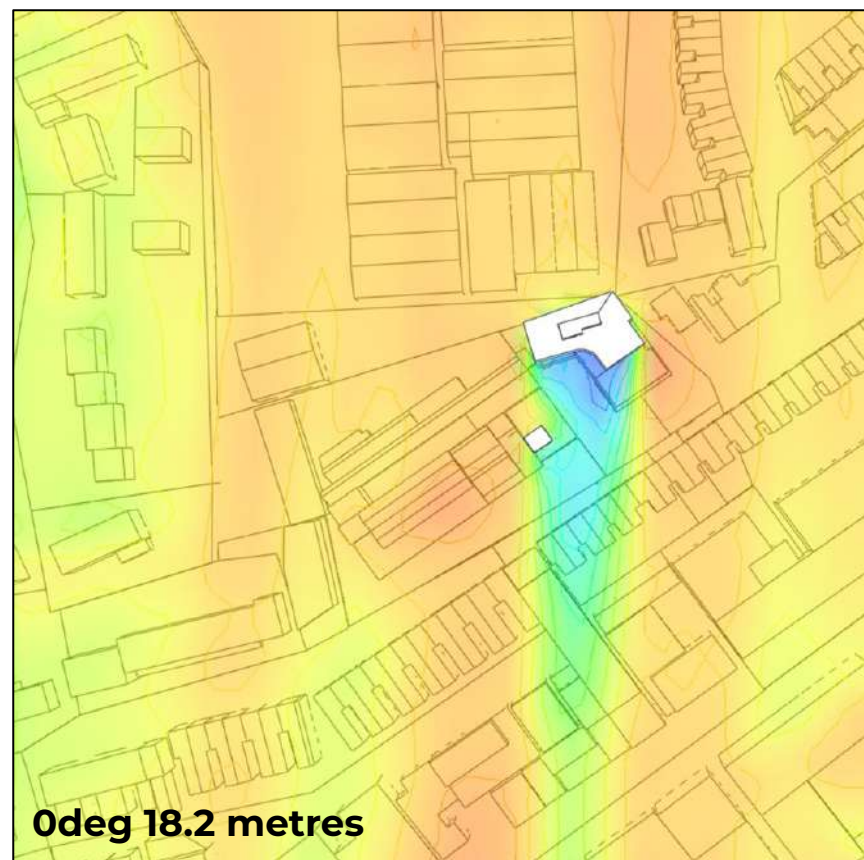
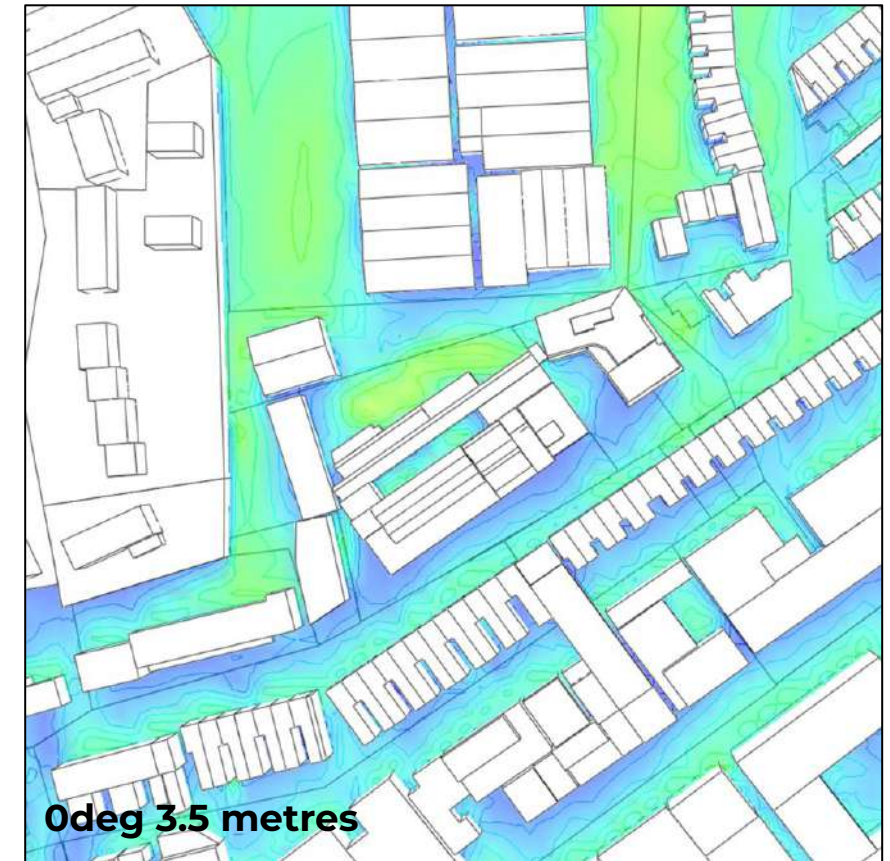
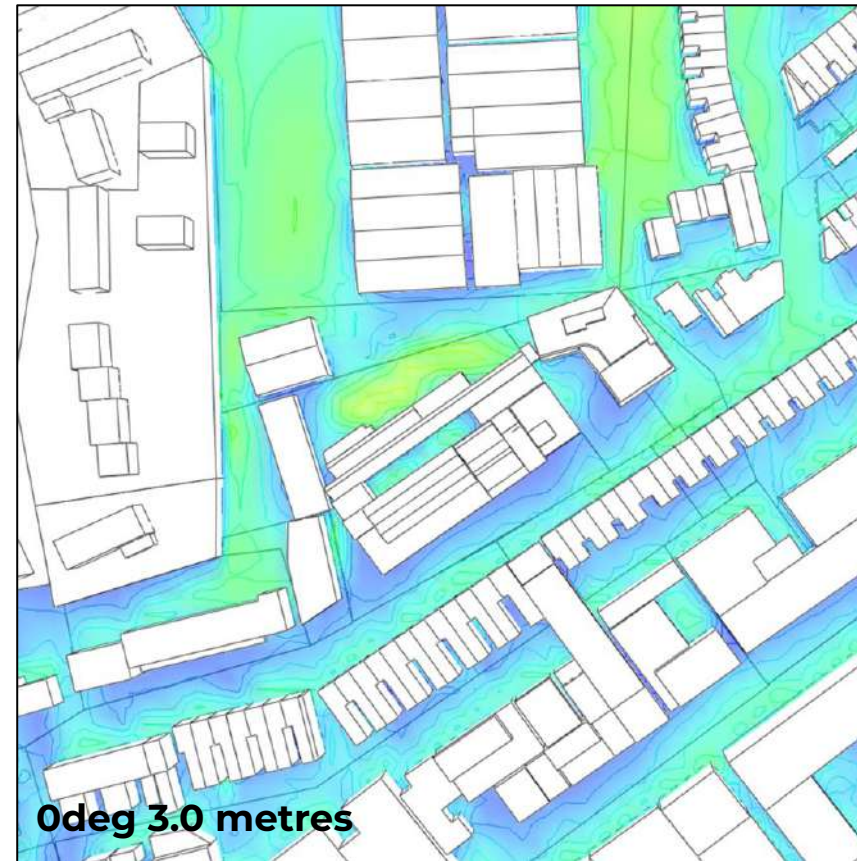
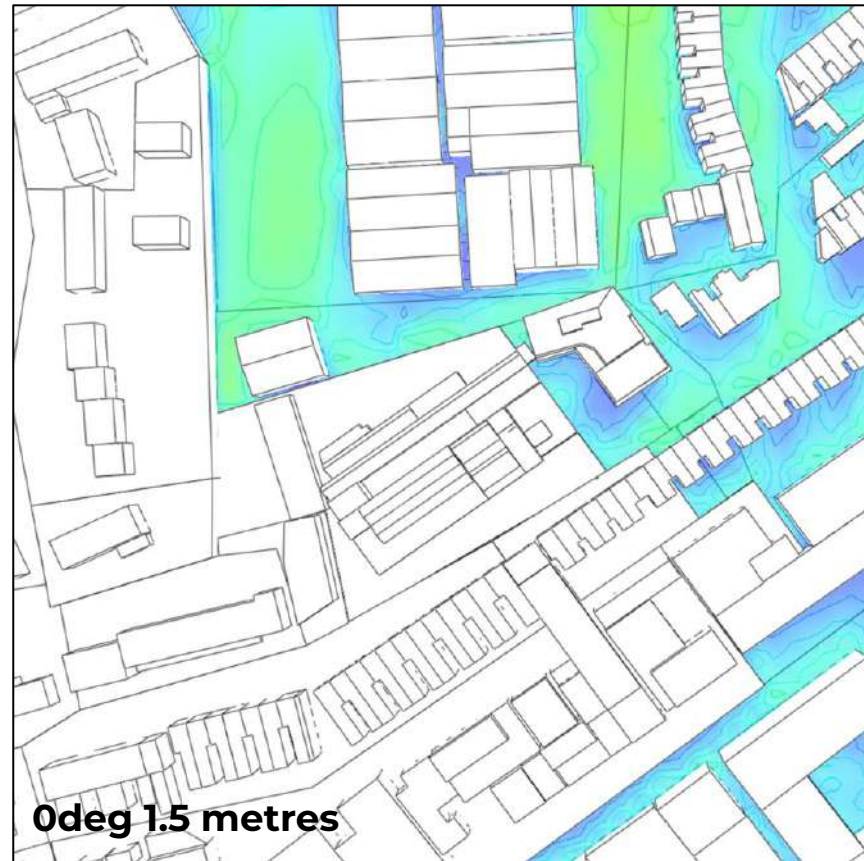
Appendix A - Cumulative Assessment 300deg



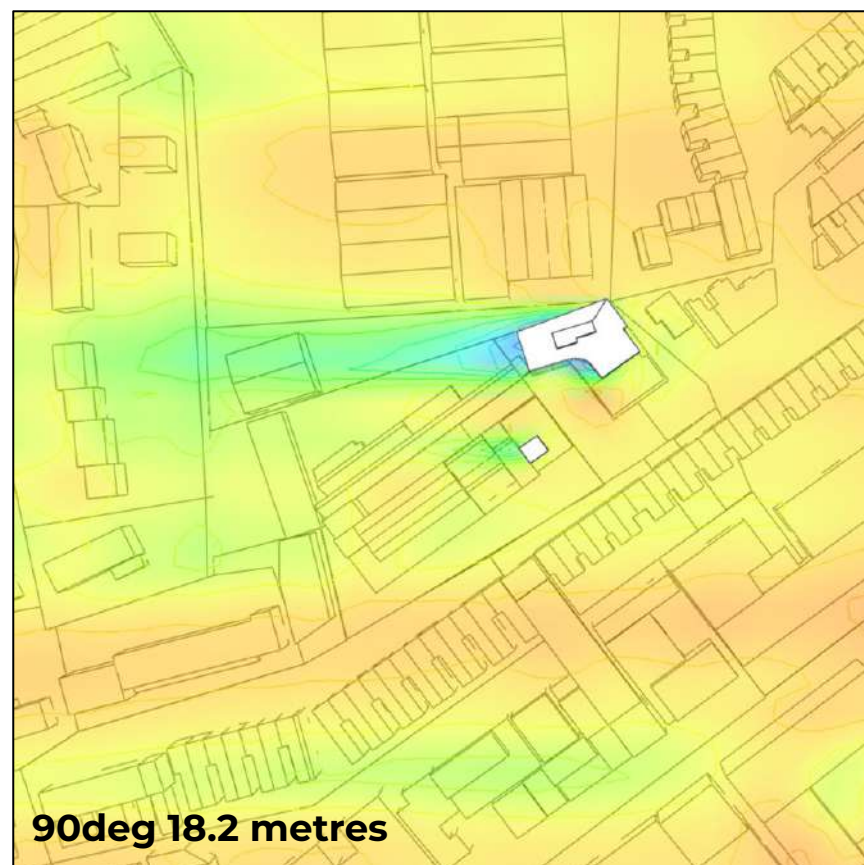
Appendix A - Cumulative Assessment 330deg



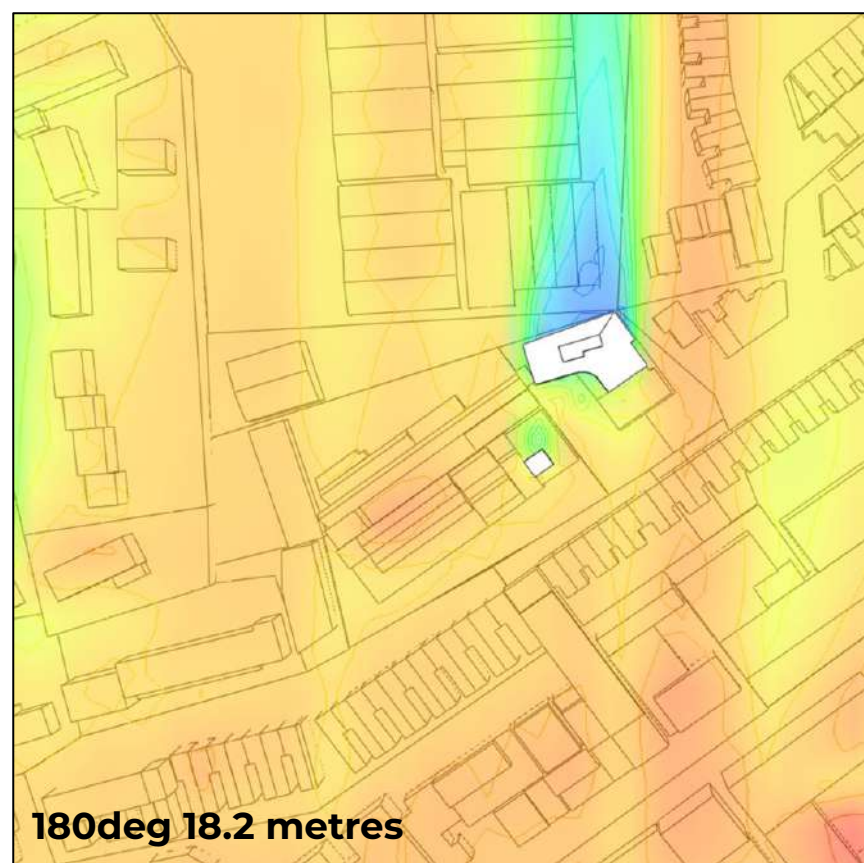
Appendix B - Proposed Only Assessment 0deg



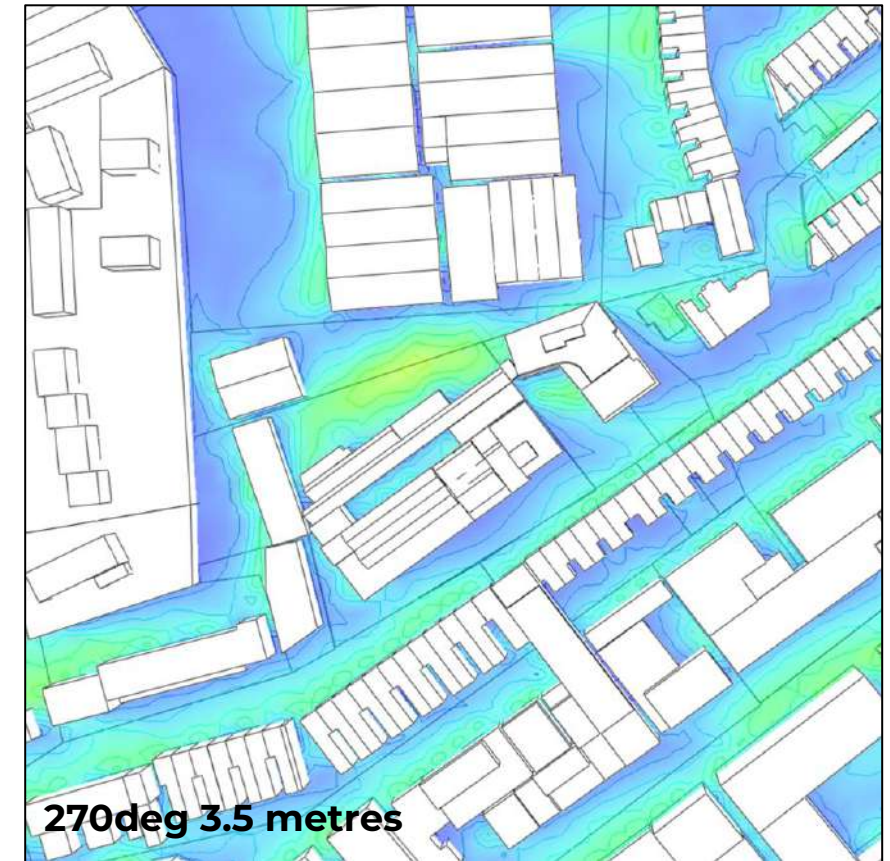
Appendix B - Proposed Only Assessment 90deg



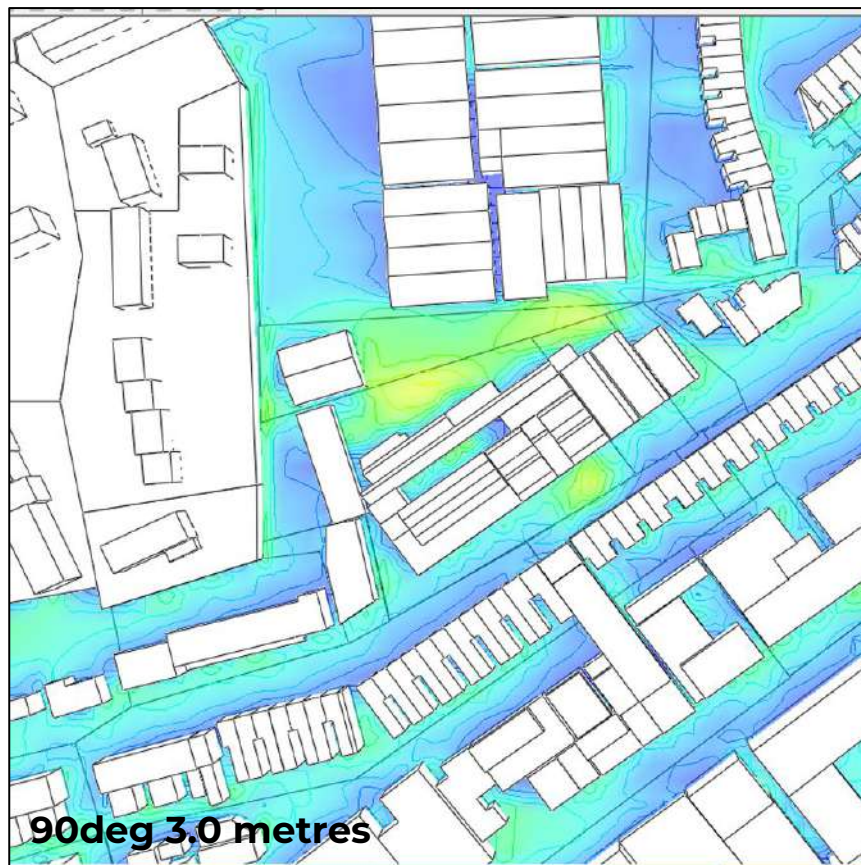
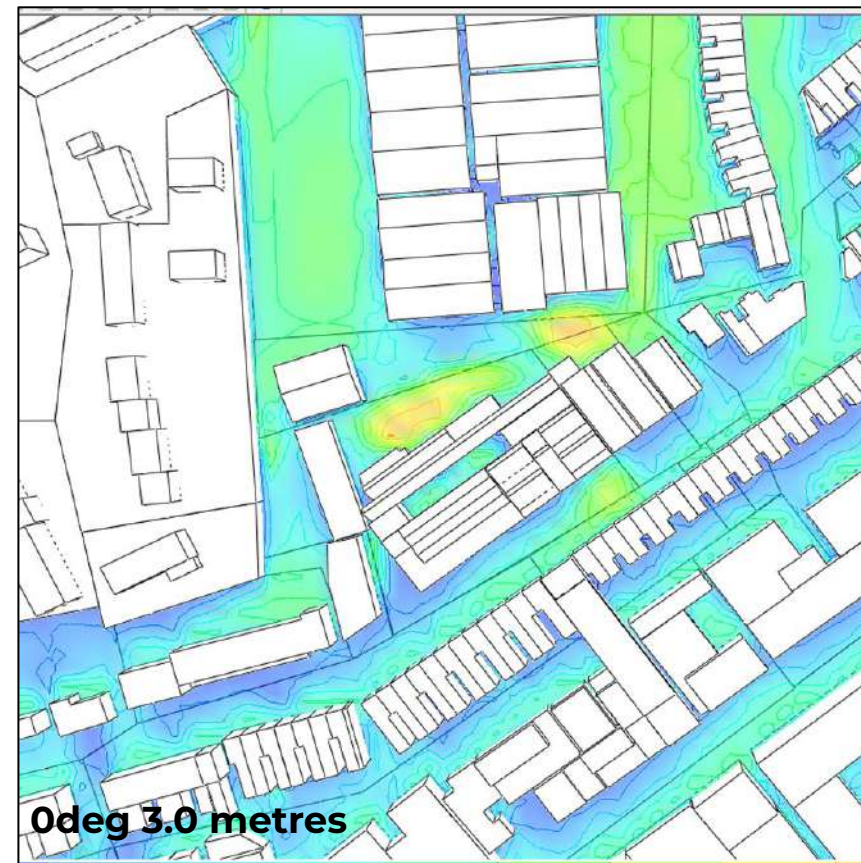
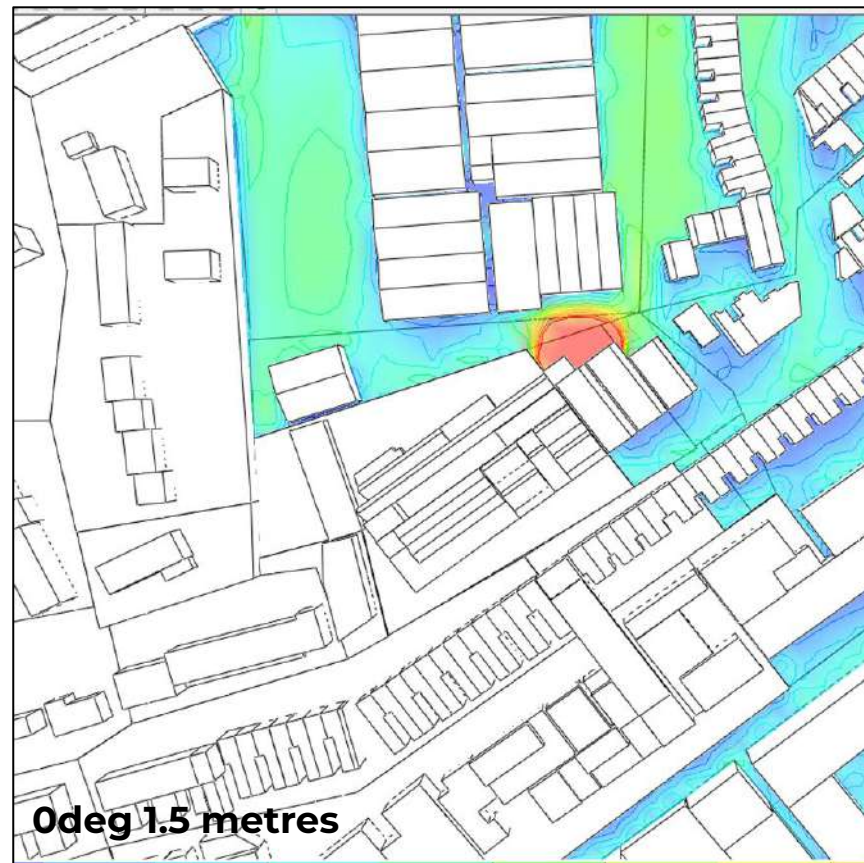
Appendix B - Proposed Only Assessment 180deg



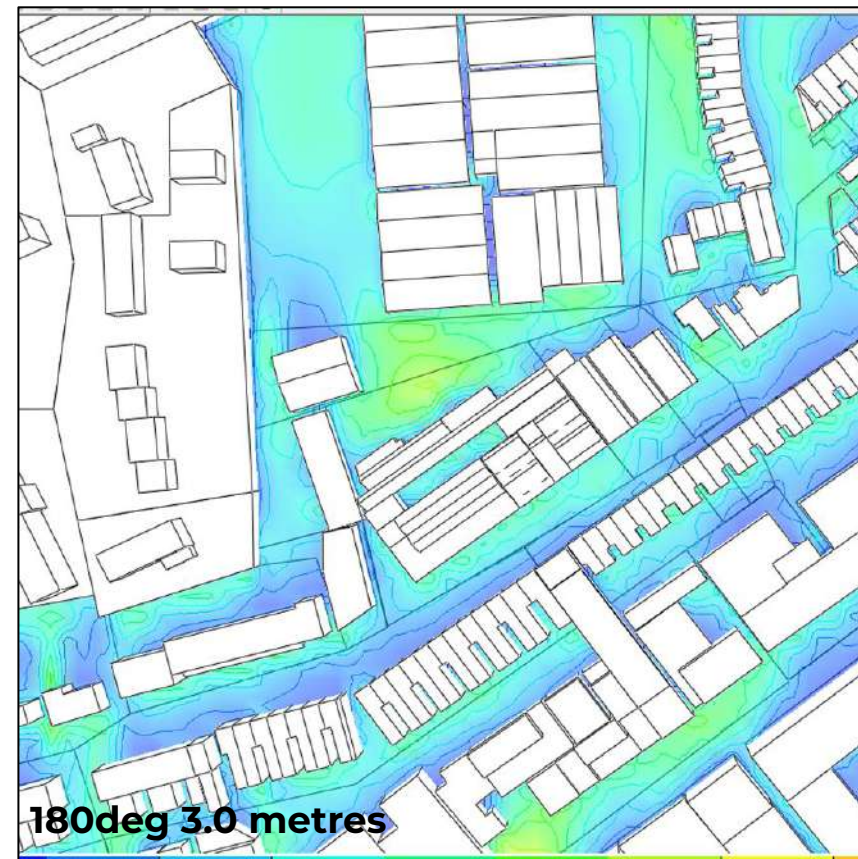
Appendix B - Proposed Only Assessment 270deg



Appendix C - Baseline Assessment 0deg & 90deg



Appendix C - Baseline Assessment 180deg & 270deg



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We help design teams within the built environment create sustainable spaces and buildings.

Our work encompasses all stages of a building's lifetime; from advising developers on new development to landowners on improving their building stock. Our experience of each RIBA Stage enabling us to better advise on the other.

Environmental consultants, designers, engineers and technicians in the built environment.

Whether it be a single house extension, commercial property, school, or multi-residential masterplan; Love Design Studio will look to maximise the scheme's sustainability credentials where most value is obtained.