



**Newcombe House and Kensington Church Street**  
Pedestrian Level Wind Microclimate Assessment





**TABLE OF CONTENTS**

1. EXECUTIVE SUMMARY ..... 1

2. INTRODUCTION..... 1

3. Pedestrian Comfort..... 2

4. Strong Winds..... 3

**RESULTS**..... 4

5. Desired Pedestrian Activity around the Development ..... 4

6. Configurations and Corresponding Figures ..... 4

7. The Proposed Development with Existing Surrounding Buildings..... 4

8. The Proposed Development with proposed landscaping and cumulative surrounding buildings ..... 4

9. Occurrence of Strong Winds ..... 4

10. DISCUSSION..... 4

Proposed Development with existing surrounding buildings with proposed landscaping ..... 4

11. Pedestrian Comfort..... 4

12. Thoroughfares..... 5

13. Entrances..... 5

14. Amenity spaces..... 5

14.1 Public Amenity Space (The Square)..... 5

14.2 Private Amenity Spaces (Terraces) ..... 5

15. Strong Winds ..... 5

Proposed Development and cumulative surrounding buildings with proposed landscaping..... 5

16. Pedestrian Comfort..... 5

17. Thoroughfares..... 5

18. Entrances..... 5

19. Amenity spaces..... 6

19.1 Public Amenity Space (The Square)..... 6

19.2 Private Amenity Spaces (Terraces) ..... 6

20. Strong Winds ..... 6

21. MITIGATION MEASURES..... 6

22. CONCLUDING REMARKS..... 6





## 1. EXECUTIVE SUMMARY

1.1 This addendum to the Pedestrian Level Wind Microclimate Assessment has been prepared in support of amendments made to planning application PP/17/05782 (GLA ref: 3109a) for the mixed-use redevelopment of the Newcombe House Site in the Royal Borough of Kensington and Chelsea.

1.2 This addendum report outlines the findings of assessments undertaken to understand the potential impact of the latest development proposals in respect to wind microclimate.

1.3 This report is prepared by RWDI which is the largest wind engineering consultancy in the world, and has provided wind engineering consultancy for the project since 2011, with extensive wind tunnel testing conducted at various stages of the project. As such, the design has evolved with a clear objective to minimize the wind effects and maximize the pedestrian comfort around the Site.

1.4 The development Site is located in the Royal Borough of Kensington and Chelsea. The OS Landranger grid reference is TQ253804.

1.5 The Site is bounded by Notting Hill Gate to the north, Kensington Place to the south, Kensington Church Street to the east and existing buildings to the west.

1.6 The majority of surrounding buildings are 2-4 storey residential dwellings, although there are isolated taller blocks in the vicinity, such as the 4-6 storey block to the northeast of the Site along Notting Hill Gate.

1.7 The Site currently comprises:

- Newcombe House (43-45 Notting Hill Gate) - an office building of ground plus 11 storeys plus plant (B1 Use Class);
- 39-41 Notting Hill Gate & 209-237 Kensington Church Street - a linear block of 1 to 2 storeys accommodating shops and restaurants (A1 & A3 Use Class);
- Royston Court (161-207 Kensington Church Street) - a building of ground plus 4 storeys

with retail at ground floor (A1 & A3 Use Class) and residential on upper floors (C3 Use Class);

- A surface car park of 61 spaces; and
- Newcombe Street and part of Uxbridge Street.

1.8 Figure 1 shows an aerial view of the Site and surroundings, with the approximate Site location highlighted in yellow.

1.9 The proposed amendments do not alter the description of development, which remains as follows:

*'Demolition of the existing buildings and redevelopment to provide office, residential, and retail uses, and a flexible surgery/office use, across six buildings (ranging from ground plus two storeys to ground plus 17 storeys), together with landscaping to provide a new public square, ancillary parking and associated works.'*

1.10 The proposed amendments to the application are summarised as:

- an increase in the number of homes (to a total of 55) and alterations to the mix;
- an increase in the proportion of affordable homes (to 35% by habitable room and 41.8% by unit);
- an increase in office floorspace of 414 sqm GEA (to a total of 5,306 sqm);
- the addition of one storey to Kensington Church Street Building 1 in C3 residential use (from four to five storeys);
- the addition of two storeys to West Perimeter Building 3 in B1 office use (from five to seven storeys);
- alterations to the layouts of Kensington Church Street Buildings 1 and 2, and West Perimeter Buildings 1 and 3, with associated changes to the facades;
- minor alterations to the façade of the Corner Building on levels 4, 5 and 6 to respond to the revised massing of West Perimeter Building 3; and

- minor alterations to the services strategy for West Perimeter Building 2.

1.11 Figure 2 shows the photo of the revised massing of the Proposed Development in the wind tunnel.

1.12 This report presents a description of the results of two configurations tested in 2018 in the wind tunnel, namely;

- Proposed Development with existing surrounding buildings and proposed landscaping; and
- Proposed Development with cumulative buildings and proposed landscaping.

1.13 The proposed landscaping scheme incorporates the mitigation measures described in the September 2017 report and also shown in Figures 22 to 24 of this report. Results are presented in terms of the widely-used Lawson Comfort Criteria with the main focus on the windiest (generally winter) and summer seasons, as is typical for all wind studies in the UK. Results are also presented for autumn and spring seasons for completeness. As stated above, it should be noted that the tested configurations include the proposed landscape plan (please refer to Figure 22 - 25).

1.14 The wind microclimate around the Proposed Development is acceptable for the intended use. All thoroughfares are acceptable for leisure walking or calmer. All entrance locations are acceptable for the intended pedestrian use. All courtyard amenity spaces were also identified as being acceptable for the intended amenity use (sitting and standing), as were all terraces. As a result, mitigation measures, in addition to those described in the September 2017 planning application and shown on the landscape plan, are not required.

## 2. INTRODUCTION

2.1 Wind tunnel tests were conducted on a 1:300 scale model of the revised 2018 Newcombe House Development (referred to as the Proposed Development hereafter in this report) in London. The investigation quantifies the wind conditions within and around the site, by comparing the measured wind speed and frequency of occurrence with the well-



established Lawson Comfort Criteria. Meteorological data for London has been combined, analysed and adjusted to the site conditions by modelling the effect of terrain roughness on the wind speeds approaching the site.

2.2 Measurements were taken at 112 locations for 36 directions with a 10-degree interval. These covered ground level locations along the building facades and at corners, within open amenity spaces, terraces and on pedestrian routes within and around the Site.

2.3 Analysis was conducted on a seasonal basis but the report focuses on the windiest season results (i.e. winter) and those for the summer season, when pedestrian activity generally requires calmer conditions. Results are also presented for the spring and autumn seasons for completeness.

2.4 Two configurations of the wind tunnel model were tested, as follows:

- Proposed Development with existing surrounding buildings and proposed landscaping; and
- Proposed Development with cumulative surrounding buildings and proposed landscaping.

2.5 For the cumulative scenario the following developments, within the range of the physical model (360m radius centered on the Site), were added to the wind tunnel model before testing:

- 92-120 Notting Hill Gate (PP/16/05229);
- 47-69 Notting Hill Gate (PP/17/07174);
- 66-70, 72-74 Notting Hill Gate (PP/15/05730); and
- 15-35 Notting Hill Gate (PP/16/05212).

2.6 Any consented development beyond this range (360m radius centered on the Site) is not expected to have any impact on the wind microclimate conditions within the Site.

2.7 Results are presented in a series of colour-coded 'dot-plots' which indicate the measured comfort criteria for

the windiest and summer seasons for each configuration.

### 3. Pedestrian Comfort

3.1 The assessment of the wind conditions requires a standard against which the measurements can be compared. This report uses the Lawson Comfort Criteria, which have been established for over thirty years and have been widely used on building developments across the United Kingdom. The comfort criteria, which seek to define the reaction of an average pedestrian to the wind, are described in Table 1 and illustrated in Figure 25, in Appendix C. If the measured wind conditions exceed the threshold then they are unacceptable for the stated pedestrian activity and the expectation is that there may be complaints of nuisance or people will not use the area for its intended purpose.

3.2 The criteria set out six pedestrian activities and reflect the fact that less active pursuits require more benign wind conditions. The six categories are sitting, standing, entering/leaving a building, leisure walking, business walking and roadway/car-park, in ascending order of activity level. In other words, the wind conditions in an area for sitting need to be calmer than a location that people merely walk past. The distinction between leisure walking and business walking is that in the business scenario, where pedestrians are on Site because their livelihood depends upon it, they will be more tolerant of stronger winds.

3.3 The criteria are derived for open air conditions and assume that pedestrians will be suitably dressed for the season. Thermal comfort is not part of the assessment.

3.4 The coloured key in Table 1 corresponds to the presentation of wind tunnel test results described in Section 10 of this report.



Table 1: Lawson Comfort Criteria

	Comfort Category	Threshold	Description
	Sitting	1% > B3	Light breezes desired for outdoor restaurants and seating areas where one can read a paper or comfortably sit for long periods
	Standing/Entrance Use	6% > B3	Gentle breezes suitable for main building entrances, pick-up/drop-off points and bus stops
	Leisure Walking	4% > B4	Moderate breezes that would be appropriate for window shopping and strolling along a city/town centre street, plaza or park
	Business Walking	2% > B5	Relatively high speeds that can be tolerated if one's objective is to walk, run or cycle without lingering
	Roadway/Car-park	6% > B5	Winds of this magnitude are considered a nuisance for most activities, and wind mitigation is typically recommended

#### 4. Strong Winds

- 4.1 Lawson also specified a lower limit strong wind threshold when winds exceed Beaufort Force 6. Exceedance of this threshold may indicate a need for remedial measures or a careful assessment of the expected use of that location; e.g. is it reasonable to expect elderly or very young pedestrians to be present at the location on the windiest day of the year?
- 4.2 In the UK, stronger winds are associated with areas which would be classified as acceptable for business walking or roadway use. In a mixed-use, urban development scheme, business walking and roadway conditions would not usually form part of the 'target' wind environment and would usually require mitigation due to pedestrian comfort considerations. This mitigation would also reduce the frequency of, or even eliminate, any strong winds.
- 4.3 For locations on a pedestrian thoroughfare, where the wind speed occasionally exceeds the lower Beaufort Force 6 wind speed threshold, the wind is unlikely to generate nuisance to pedestrians. However, we would expect pedestrians to experience difficulty in walking when the wind speed exceeds Beaufort Force 7 or 8.
- 4.4 If the wind speed exceeds B6 wind speed threshold in a proposed external seating area or outside an entrance, these conditions would be unacceptable and would require mitigation. However, in such cases the area is likely to be classified as acceptable for leisure walking, business walking or roadway use and so would require mitigation to satisfy the Lawson Comfort Criteria in any case.
- 4.5 It is RWDI's practice to report incidence when the B6, B7 and B8 thresholds are exceeded for more than 1 hour per annum. The results for this study are presented in Table 2, which also shows the wind direction that contributes most to the strong winds.





## RESULTS

### 5. Desired Pedestrian Activity around the Development

5.1 Generally, for a mixed-use development, the target conditions are:

- Leisure walking during the windiest season on pedestrian thoroughfares;
- Standing/entrance conditions at main entrances, drop off areas or taxi ranks, and bus stops throughout the year; and
- Sitting conditions at outdoor seating and amenity areas during the summer season when these areas are more likely to be frequently used by pedestrians.

5.2 The business walking and roadway classifications are usually avoided because of their association with occasional strong winds unless they are on a minor pedestrian route or a route where pedestrian access could be controlled in the event of strong winds.

5.3 Achieving a sitting classification in the summer usually means that same receptor would be acceptable for standing in the windiest season because winds are stronger at this time. This is considered an acceptable occurrence for the majority of optional external amenity spaces because other factors such as air temperature and precipitation influence people's perceptions about the 'need' to use seating in the middle of winter.

### 6. Configurations and Corresponding Figures

6.1 The wind microclimate within and around the Site has been assessed and classified using the Lawson Comfort Criteria defined in Table 1. The Configurations used for the testing are described below.

### 7. The Proposed Development with Existing Surrounding Buildings

7.1 Configuration 1 consists of the Proposed Development with existing surroundings and proposed landscaping. Ground and Terrace Level results for each season are shown in Figure 3 to Figure 10.

### 8. The Proposed Development with proposed landscaping and cumulative surrounding buildings

8.1 Configuration 2 consists of the Proposed Development with proposed landscaping and cumulative surrounding buildings. For the test scenario the following cumulative buildings were added to the model:

- 92-120 Notting Hill Gate (PP/16/05229);
- 47-69 Notting Hill Gate (PP/17/07174);
- 66-70, 72-74 Notting Hill Gate (PP/15/05730); and
- 15-35 Notting Hill Gate (PP/16/05212).

8.2 Results are shown for each season in Figure 11 to 18.

### 9. Occurrence of Strong Winds

9.1 For configuration 1, areas with occasional strong winds exceeding Beaufort Force 6 for more than 1 hour per annum are listed in Table 2 together with the primary wind direction and the number of hours per annum for which the threshold wind speed is exceeded.

9.2 No strong winds were observed for Configuration 2, with cumulative buildings in place.

9.3 The strong wind conditions are further discussed in the sections below.

Table 2: Annual Exceedance of Strong Winds

Location	Beaufort Force Exceedance	Main Wind Direction	Hours per annum
Configuration 1: The Proposed Development with existing surrounding buildings			
4	B6	220	1.7
5	B6	220	2.4
6	B6	220	1.3
10	B6	220	4.5
11	B7	220	1.1
12	B7	220	1.2
13	B6	220	2.6
106	B6	220	1.4

## 10. DISCUSSION

10.1 For each of the tested configurations, the winter season was the windiest and provided the worst-case results, whereas the summer season is the one taken into account when considering amenity spaces. As such, the discussion will focus on these two seasons. Results for the spring and autumn seasons across all configurations are included within the figures section of this report.

### Proposed Development with existing surrounding buildings with proposed landscaping

#### 11. Pedestrian Comfort

11.1 The discussion of the wind microclimate for the Proposed Development with existing surrounding buildings is based on the results shown in Figures 3 to 6.

11.2 Results for the terrace level are presented in figures 7 to 10.





## 12. Thoroughfares

12.1 With the Proposed Development in situ, all thoroughfare locations considered both on and off Site were acceptable for their intended use during the windiest season with wind conditions ranging from leisure walking through to sitting.

12.2 During the summer season when winds are generally calmer, conditions along thoroughfares both on and off Site would largely be acceptable for a mix of standing and sitting conditions.

## 13. Entrances

13.1 All entrances to the Proposed Development (CB, KCS1, KCS2 AND WPB1-WPB3) are acceptable for their intended use with wind conditions ranging from standing to sitting during the windiest season.

## 14. Amenity spaces

### 14.1 Public Amenity Space (The Square)

14.1.1 Within the public square it is the intention that a market will be held within this area throughout the year. Probes 92 to 98 have been placed in this designated market area. In such shopping spaces standing level winds or calmer would be targeted during the windiest season.

14.1.2 During the windiest season, conditions within the public square are observed to be suitable for a mix of sitting and standing conditions, which are considered to be acceptable for the intended pedestrian use. As a result, conditions within the public square would be suitable for market use during all seasons.

14.1.3 Seating areas would also be situated along the periphery of public square, to the east of WPB1 and the west of KCS1. During the summer season, all ground level seating areas within the public square would be acceptable for the targeted sitting use.

14.1.4 The seating areas represented by receptors 92, 94, 95 and 97 would have wind conditions suitable for sitting use during all the seasons.

14.1.5 It should be noted that receptor 99 is situated on a thoroughfare immediately to the north of the designated market area. In this configuration, walking conditions are measured at this location, but as this is a thoroughfare conditions will continue to be acceptable.

### 14.2 Private Amenity Spaces (Terraces)

14.2.1 During the summer season all seating areas at all terraces (KCS1 communal residents only roof terrace, CB – Intensive Garden Level 4 and WPB3-Intensive Garden Level 6) are observed to have sitting level winds, and therefore would be suitable for the intended use.

14.2.2 CB building's East Form Intensive Garden Level 14 (receptors 44 and 114) achieved a mix of sitting and standing conditions during the summer season, with the seating area shown on the landscape plans (114) appropriate for intended sitting use.

## 15. Strong Winds

15.1 There were eight occurrences of strong winds exceeding Beaufort 6 for up to 4.5 hours per year. Receptors 4-6, 10, 13 and 106 were located on thoroughfare or in the roadway and infrequent winds of this magnitude are unlikely to cause a nuisance at these locations. Receptors 11 and 12 are situated in the central reservation of Notting Hill Gate Road where an exceedance of B7 is observed. Exceedance of B7 winds could be a safety concern in public spaces, but members of the public will not be regularly using the centre of the road, and as such, these strong wind exceedances are not likely to cause safety concerns.

15.2 It should be noted that these strong wind occurrences are consistent but slightly reduced when compared to those identified during the previous tests conducted during 2015. Also, the new massing and developed landscape design

improved conditions at receptors 29, 55 and 59 compared to the tests conducted in 2015.

## Proposed Development and cumulative surrounding buildings with proposed landscaping

### 16. Pedestrian Comfort

16.1 The discussion of the wind microclimate for this configuration is based on the results shown in Figures 11 to 14 for the at ground level.

16.2 Results for the terrace level are presented in figures 15 to 18.

16.3 For this configuration the following cumulative buildings were added to the model before the tests:

- 92-120 Notting Hill Gate;
- 47-69 Notting Hill Gate;
- 66-70, 72-74 Notting Hill Gate; and
- 15-35 Notting Hill Gate.

16.4 It should be noted that wind conditions across the Site were generally calmer with cumulative buildings in place.

### 17. Thoroughfares

17.1 With the cumulative schemes in situ, all thoroughfare locations both on and off Site remained acceptable for their intended use during the windiest season with wind conditions ranging from leisure walking through to sitting.

17.2 During the summer season when winds are generally calmer, conditions along thoroughfares both on and off Site across the Site would largely be acceptable for a mix of standing and sitting conditions.

### 18. Entrances

18.1 All entrances to the Proposed Development (CB, KCS1, KCS2 AND WPB1-WPB3) remained acceptable for the intended use during the windiest season.



## 19. Amenity spaces

### 19.1 Public Amenity Space (The Square)

- 19.1.1 For this configuration conditions within the public square are slightly calmer than those identified for the Proposed Development with existing surrounding buildings. And so, conditions within the public square would remain suitable for market use during all seasons.
- 19.1.2 Conditions within ground level seating areas to the east of WPB1 and the west of KCS1, within the public square would remain suitable for the intended pedestrian use during the summer season.
- 19.1.3 The seating areas at receptors 92, 94, 95 and 97, could be used for sitting purposes throughout the year, consistent with the previous configuration.

### 19.2 Private Amenity Spaces (Terraces)

- 19.2.1 During the summer season, with cumulative developments in situ, all terraces (CB, KCS1 and WPB3) would remain suitable for the desired use.

## 20. Strong Winds

- 20.1 There were no occurrences of strong winds exceeding Beaufort 6. It should be noted that when neighbouring cumulative developments are built out, all recorded occurrences of strong winds are ameliorated.

## 21. MITIGATION MEASURES

- 21.1 As the design of the buildings and the landscape scheme was optimized to achieve the desired wind conditions in all areas, no wind mitigation measures are required.

## 22. CONCLUDING REMARKS

In conclusion:

- 22.1 The meteorological data for the Site indicate prevailing winds from the south-west quadrant throughout the year with secondary winds from the north-easterly direction, particularly during spring.
- 22.2 When comparing the wind microclimate around the 2018 scheme to that of the previous scheme, conditions are found to be consistent and in some cases calmer than that of the previously tested scheme.
- 22.3 For Configuration 1 the wind microclimate around the Proposed Development is acceptable for the intended use at all locations. All thoroughfares are acceptable for leisure walking or calmer. All entrance locations are acceptable for the intended pedestrian use. All public square seating areas were also identified as being acceptable for the intended pedestrian use. All terrace receptors would be acceptable for the intended use during the summer season.
- 22.4 There were eight occurrences of strong winds exceeding Beaufort 6 for up to 4.5 hours per year. Receptors 4-6, 10, 13 and 106 were located on thoroughfare or in the roadway and infrequent winds of this magnitude are unlikely to cause a nuisance at these locations. Receptors 11 and 12 are situated in the central reservation of Notting Hill Gate Road where an exceedance of B7 is observed. Exceedance of B7 winds could be a safety concern in public spaces, but members of the public will not be regularly using the centre of the road, and as such, these strong wind exceedances are not likely to cause safety concerns.
- 22.5 Cumulative buildings provide shelter to the Site and improve the wind conditions further. Therefore Configuration 2 - with cumulative buildings in situ - has acceptable wind conditions across the Site, at all thoroughfares, entrances, seating and amenity areas (both public and private) during all seasons. Similarly, there were no occurrences of strong winds.





Figure 1: Aerial Photograph of the Existing Site (highlighted in yellow)

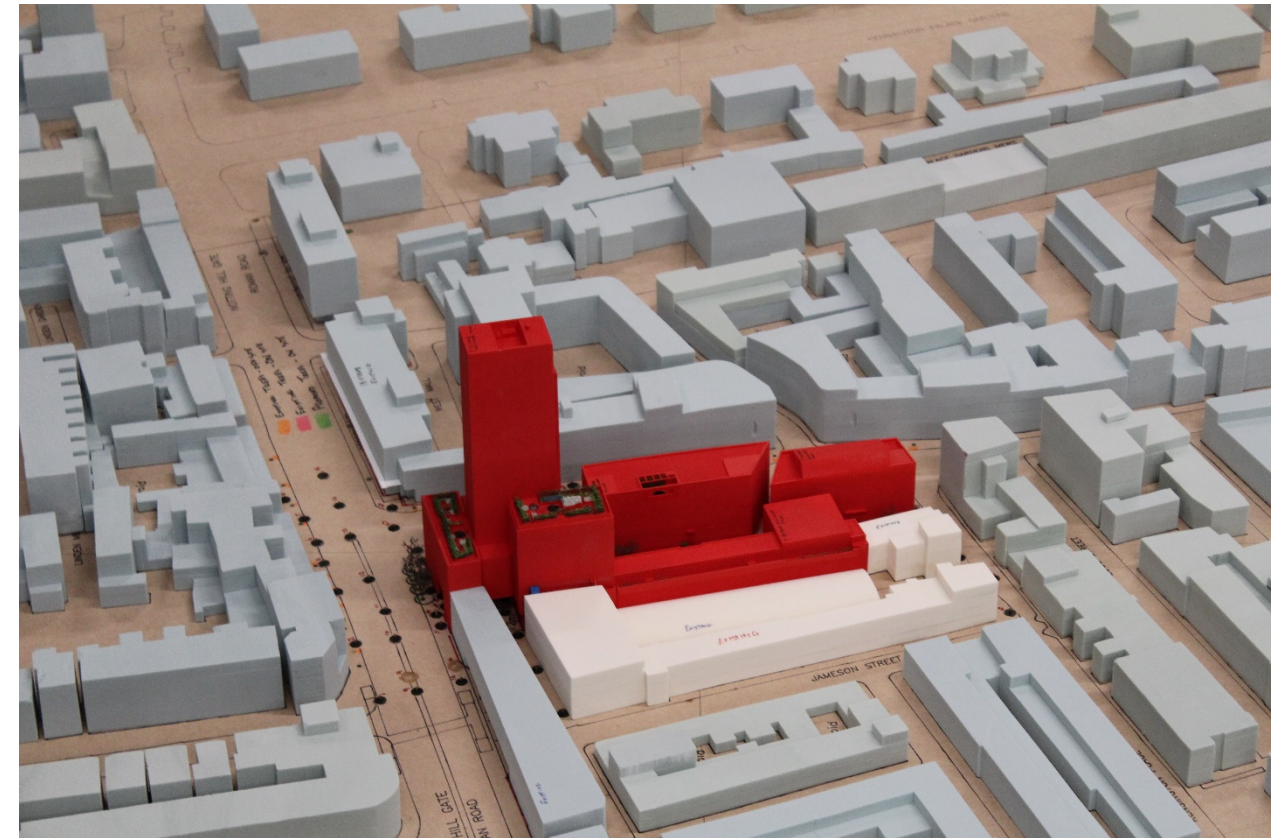
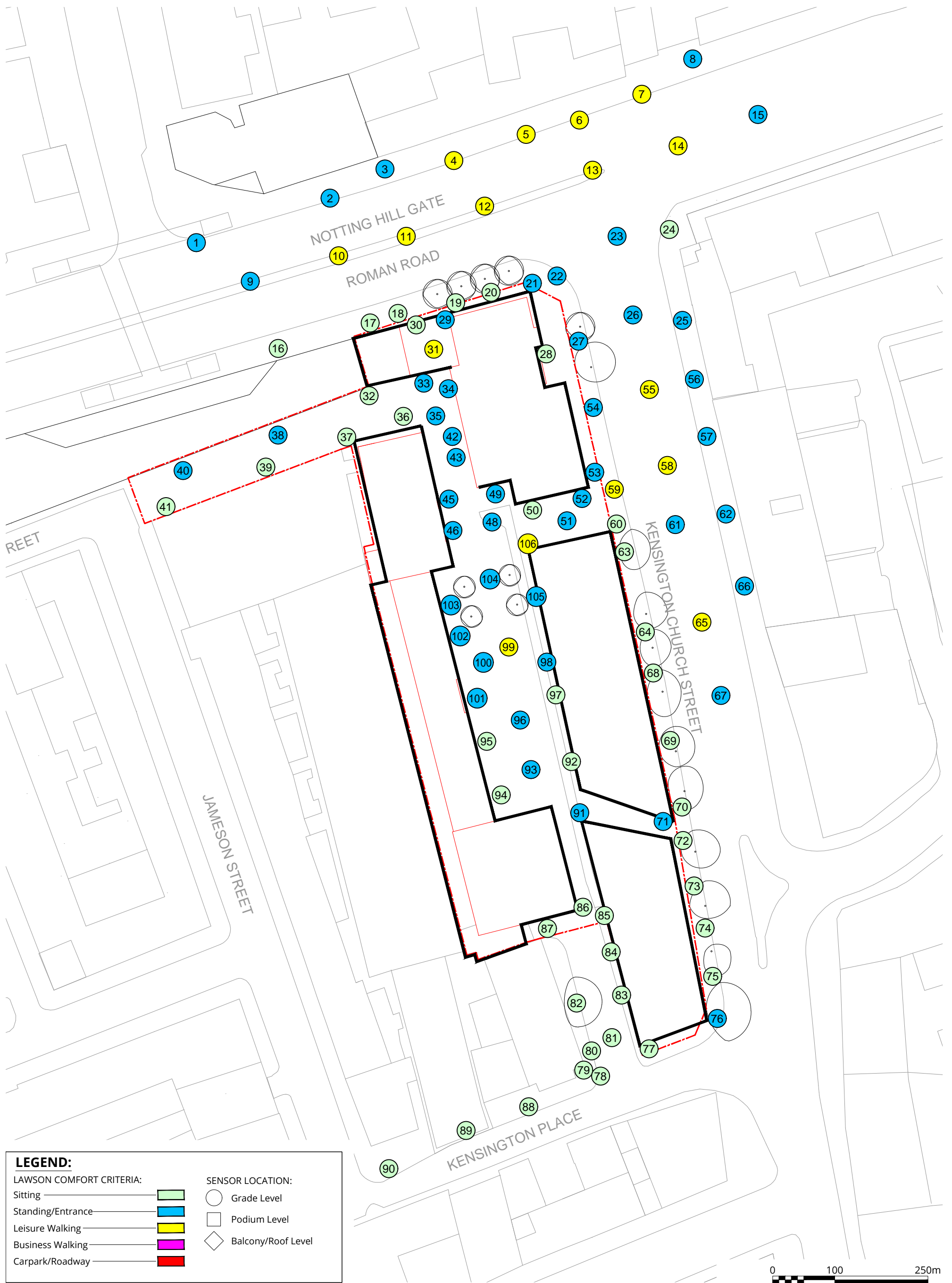


Figure 2: Image of the Proposed Development – Configuration 1: Proposed Development with existing surrounding buildings with proposed landscaping - in the Wind Tunnel (view from the South)



**LEGEND:**

LAWSON COMFORT CRITERIA:		SENSOR LOCATION:	
Sitting		Grade Level	
Standing/Entrance		Podium Level	
Leisure Walking		Balcony/Roof Level	
Business Walking			
Carpark/Roadway			

**Pedestrian Wind Comfort Conditions - Ground Floor**  
 Configuration 1: Proposed Development with Existing Surrounds and Proposed Landscaping  
 Windiest Season

Newcombe House (Notting Hill Gate) - London, United Kingdom

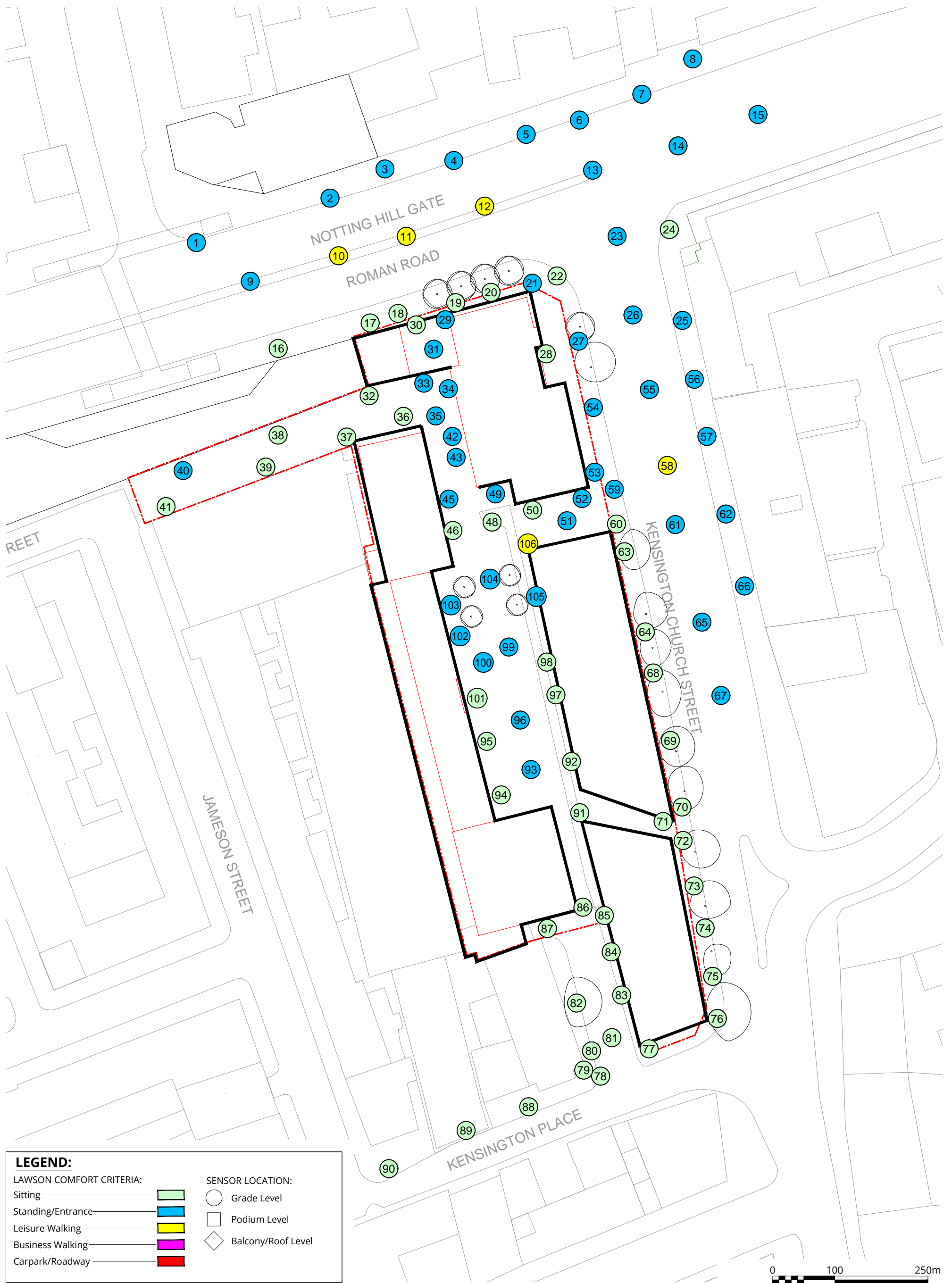


Project #1803808

Drawn by: JLF	Figure: 3
Approx. Scale @A3: 1:600	
Date Revised: Jun. 29, 2018	







**LEGEND:**

LAWSON COMFORT CRITERIA:		SENSOR LOCATION:	
Sitting		Grade Level	
Standing/Entrance		Podium Level	
Leisure Walking		Balcony/Roof Level	
Business Walking			
Carpark/Roadway			

**Pedestrian Wind Comfort Conditions - Ground Floor**  
 Configuration 1: Proposed Development with Existing Surrounds and Proposed Landscaping  
 Spring Season

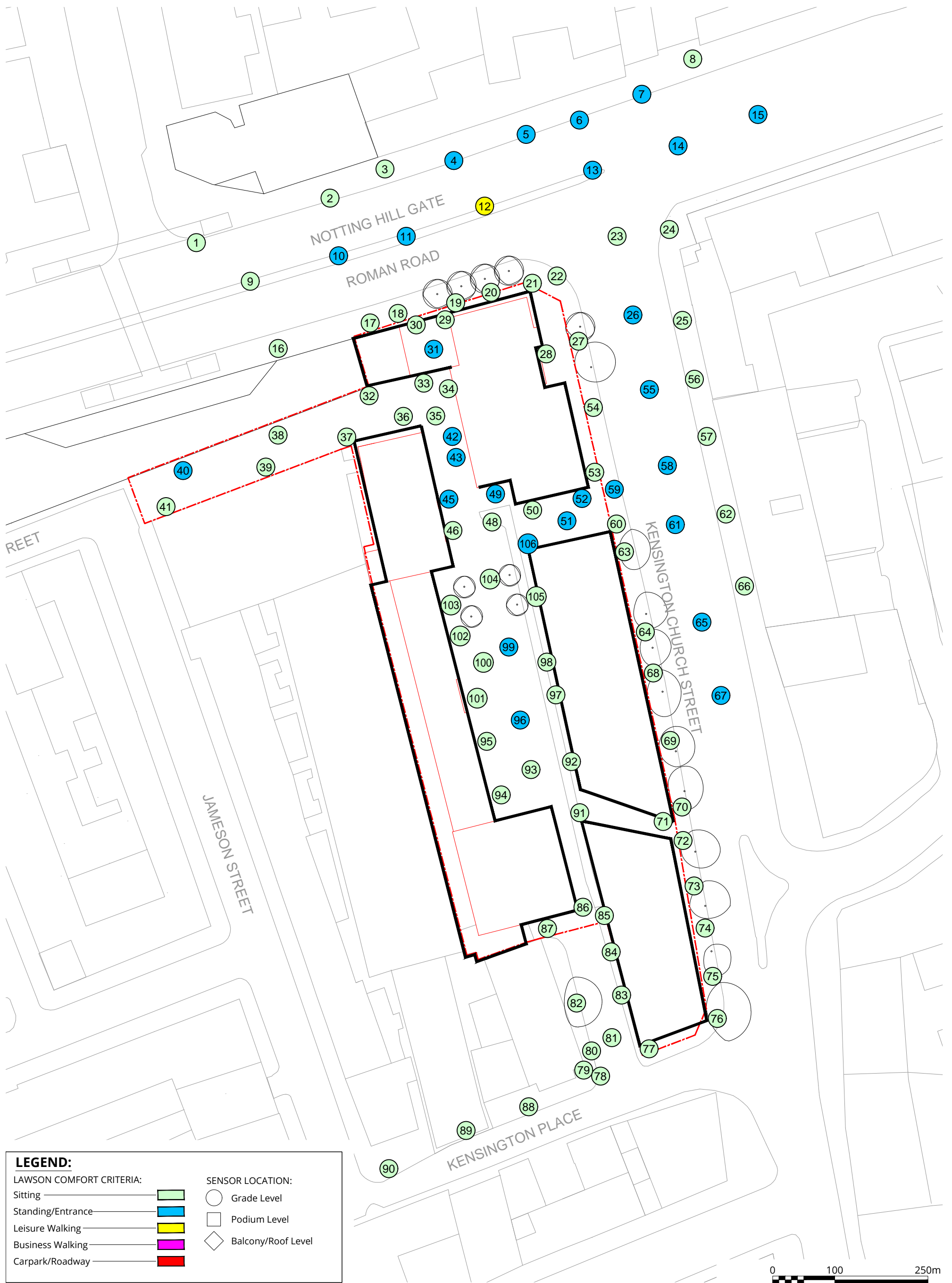
Newcombe House (Notting Hill Gate) - London, United Kingdom



Project #1803808

Drawn by: JLF	Figure: 4
Approx. Scale @A3: 1:600	
Date Revised: Jun. 29, 2018	





**Pedestrian Wind Comfort Conditions - Ground Floor**  
 Configuration 1: Proposed Development with Existing Surrounds and Proposed Landscaping  
 Summer Season

Newcombe House (Notting Hill Gate) - London, United Kingdom

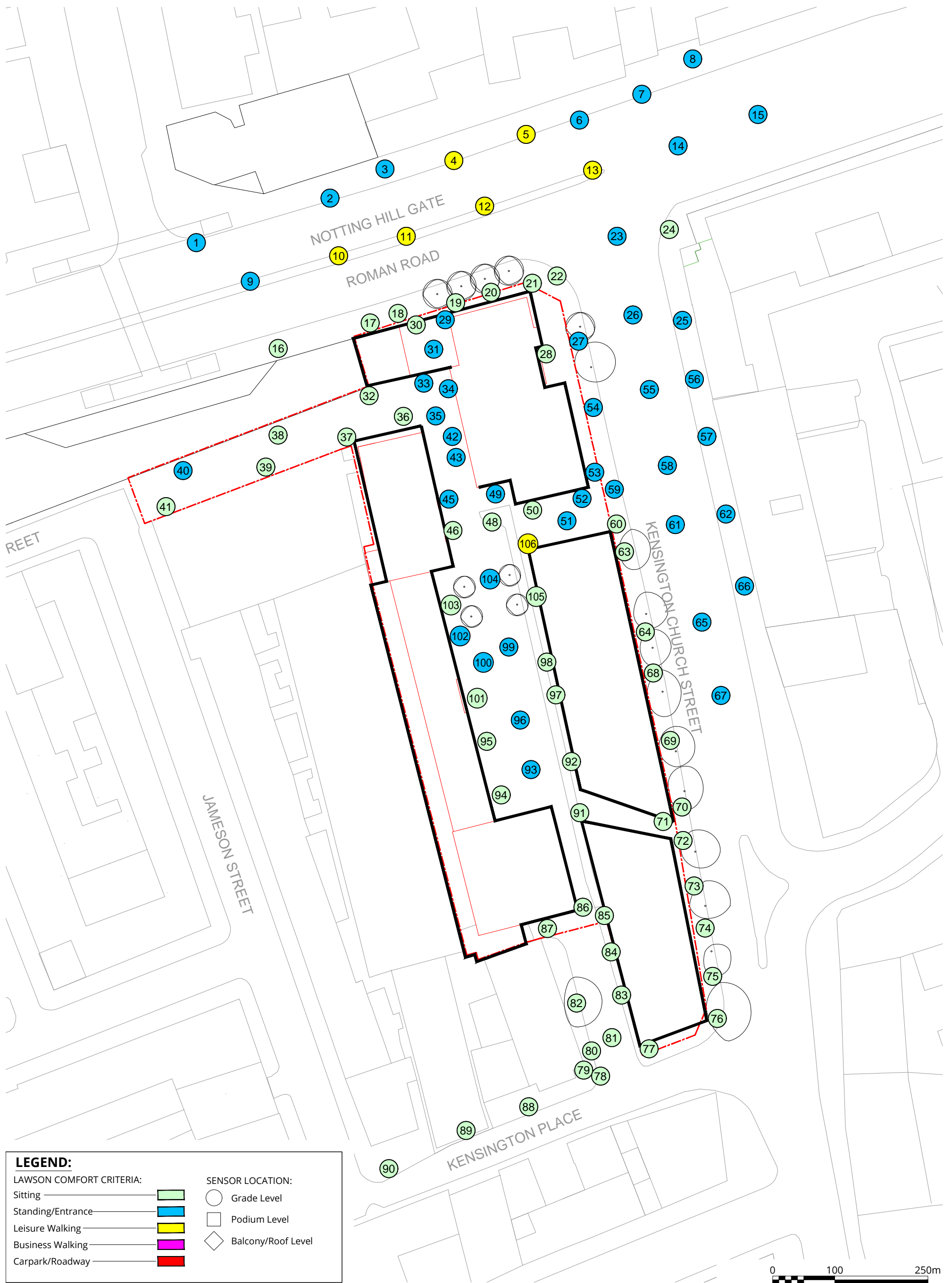


Project #1803808

Drawn by: JLF	Figure: 5
Approx. Scale @A3: 1:600	
Date Revised: Jun. 29, 2018	







**LEGEND:**

LAWSON COMFORT CRITERIA:		SENSOR LOCATION:	
Sitting		Grade Level	
Standing/Entrance		Podium Level	
Leisure Walking		Balcony/Roof Level	
Business Walking			
Carpark/Roadway			

**Pedestrian Wind Comfort Conditions - Ground Floor**  
 Configuration 1: Proposed Development with Existing Surrounds and Proposed Landscaping  
 Autumn Season

Newcombe House (Notting Hill Gate) - London, United Kingdom



Project #1803808

Drawn by: JLF	Figure: 6
Approx. Scale @A3: 1:600	
Date Revised: Jun. 29, 2018	





**LEGEND:**

LAWSON COMFORT CRITERIA:		SENSOR LOCATION:	
Sitting		○ Grade Level	
Standing/Entrance		□ Podium Level	
Leisure Walking		◇ Balcony/Roof Level	
Business Walking			
Carpark/Roadway			



**Pedestrian Wind Comfort Conditions - Terrace Level**  
 Configuration 1: Proposed Development with Existing Surrounds and Proposed Landscaping  
 Windiest Season

Newcombe House (Notting Hill Gate) - London, United Kingdom



Project #1803808

Drawn by: JLF	Figure: 7
Approx. Scale @A3: 1:600	
Date Revised: Jun. 29, 2018	





**LEGEND:**

LAWSON COMFORT CRITERIA:		SENSOR LOCATION:	
Sitting		○ Grade Level	
Standing/Entrance		□ Podium Level	
Leisure Walking		◇ Balcony/Roof Level	
Business Walking			
Carpark/Roadway			



**Pedestrian Wind Comfort Conditions - Terrace Level**  
 Configuration 1: Proposed Development with Existing Surrounds and Proposed Landscaping  
 Spring Season

Newcombe House (Notting Hill Gate) - London, United Kingdom



Project #1803808

Drawn by: JLF	Figure: 8
Approx. Scale @A3: 1:600	
Date Revised: Jun. 29, 2018	





**LEGEND:**

LAWSON COMFORT CRITERIA:		SENSOR LOCATION:	
Sitting		○ Grade Level	
Standing/Entrance		□ Podium Level	
Leisure Walking		◇ Balcony/Roof Level	
Business Walking			
Carpark/Roadway			



**Pedestrian Wind Comfort Conditions - Terrace Level**  
 Configuration 1: Proposed Development with Existing Surrounds and Proposed Landscaping  
 Summer Season

Newcombe House (Notting Hill Gate) - London, United Kingdom



Project #1803808

Drawn by: JLF	Figure: 9
Approx. Scale @A3: 1:600	
Date Revised: Jun. 29, 2018	







**LEGEND:**

LAWSON COMFORT CRITERIA:

- Sitting
- Standing/Entrance
- Leisure Walking
- Business Walking
- Carpark/Roadway

SENSOR LOCATION:

- Grade Level
- Podium Level
- Balcony/Roof Level

**Pedestrian Wind Comfort Conditions - Terrace Level**

Configuration 1: Proposed Development with Existing Surrounds and Proposed Landscaping  
Autumn Season

Newcombe House (Notting Hill Gate) - London, United Kingdom

True North



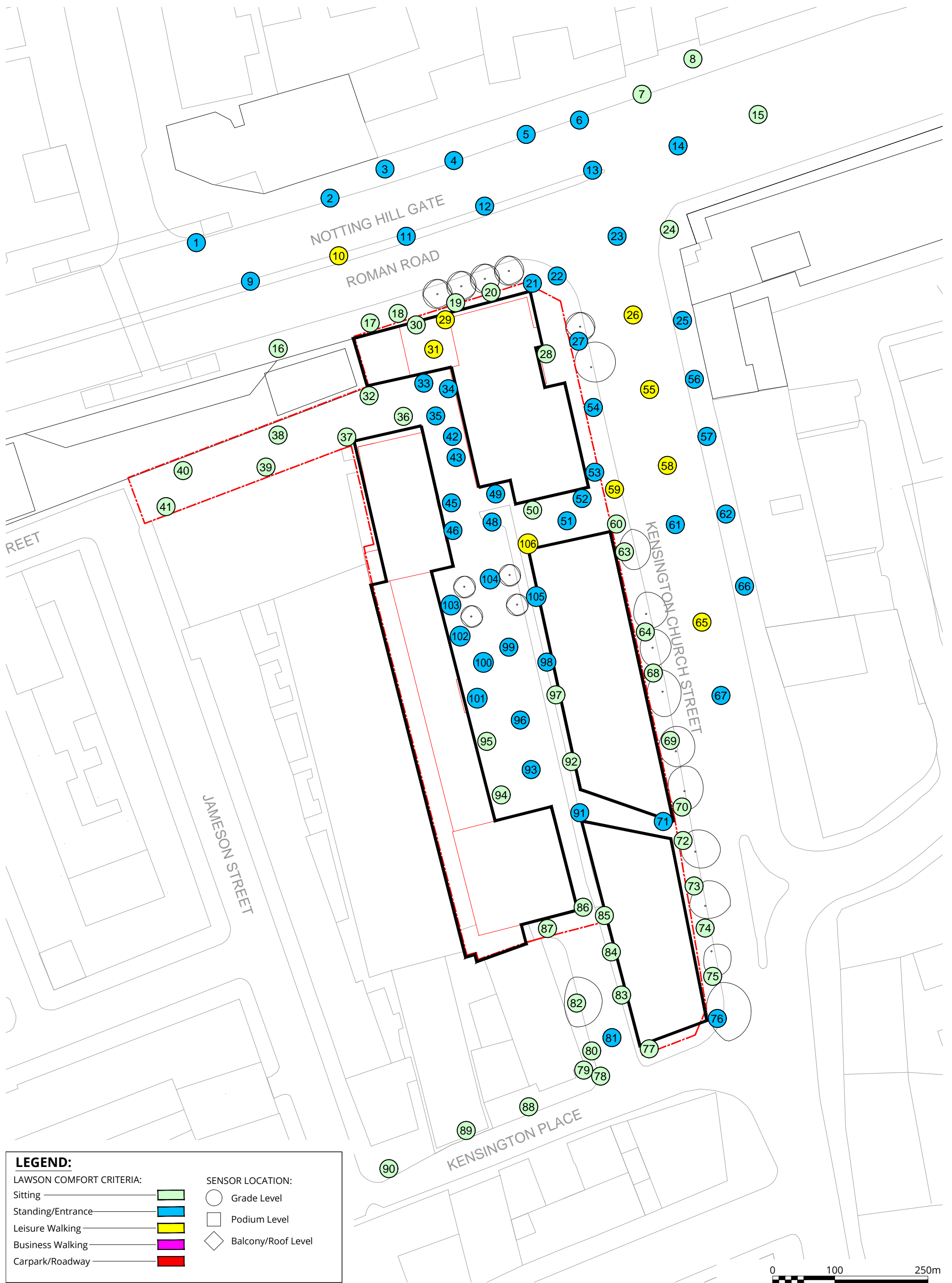
Drawn by: JLF Figure: 10

Approx. Scale @A3: 1:600

Date Revised: Jun. 29, 2018



Project #1803808



**LEGEND:**

LAWSON COMFORT CRITERIA:		SENSOR LOCATION:	
Sitting	<span style="color: green;">■</span>	○	Grade Level
Standing/Entrance	<span style="color: blue;">■</span>	□	Podium Level
Leisure Walking	<span style="color: yellow;">■</span>	◇	Balcony/Roof Level
Business Walking	<span style="color: magenta;">■</span>		
Carpark/Roadway	<span style="color: red;">■</span>		

**Pedestrian Wind Comfort Conditions - Ground Floor**  
 Configuration 2: Proposed Development with Cumulative Surrounds and Proposed Landscaping  
 Windiest Season

Newcombe House (Notting Hill Gate) - London, United Kingdom

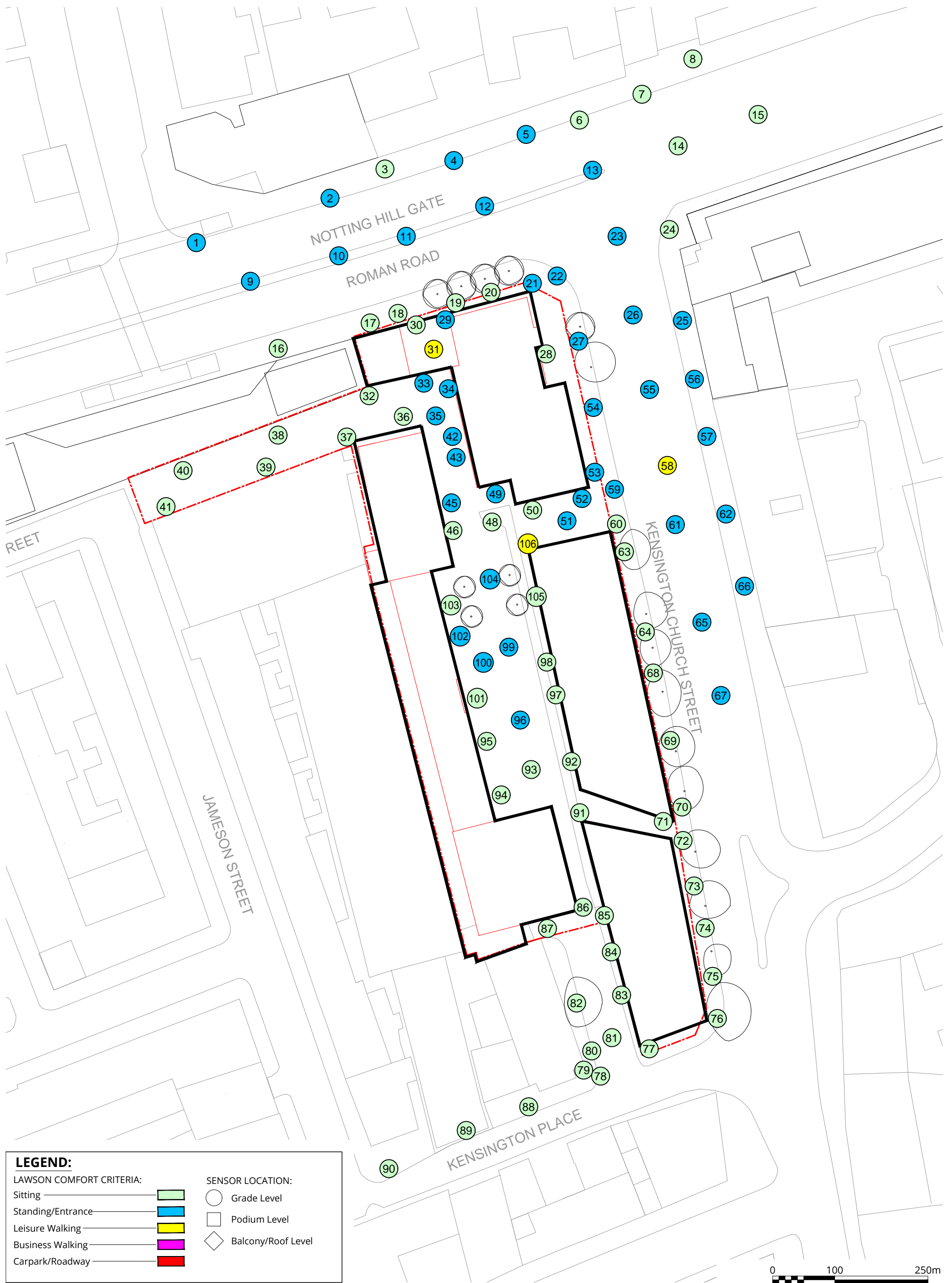


Project #1803808

Drawn by: JLF	Figure: 11
Approx. Scale @A3: 1:600	
Date Revised: Jun. 29, 2018	







**LEGEND:**

LAWSON COMFORT CRITERIA:		SENSOR LOCATION:	
Sitting	<span style="color: green;">■</span>	○	Grade Level
Standing/Entrance	<span style="color: blue;">■</span>	□	Podium Level
Leisure Walking	<span style="color: yellow;">■</span>	◇	Balcony/Roof Level
Business Walking	<span style="color: magenta;">■</span>		
Carpark/Roadway	<span style="color: red;">■</span>		

**Pedestrian Wind Comfort Conditions - Ground Floor**  
 Configuration 2: Proposed Development with Cumulative Surrounds and Proposed Landscaping  
 Spring Season

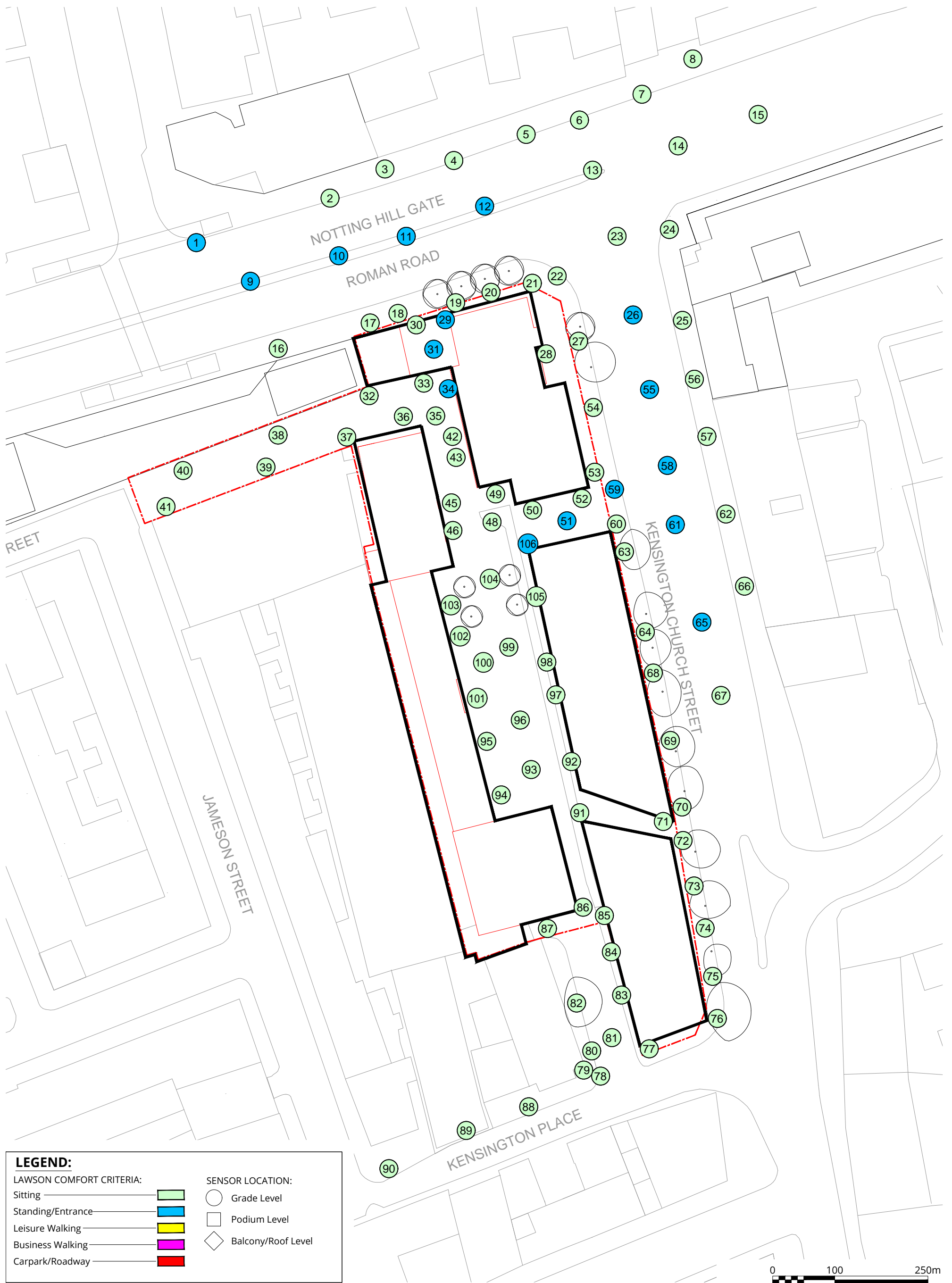
Newcombe House (Notting Hill Gate) - London, United Kingdom



Project #1803808

Drawn by: JLF	Figure: 12
Approx. Scale @A3: 1:600	
Date Revised: Jun. 29, 2018	





**LEGEND:**

LAWSON COMFORT CRITERIA:		SENSOR LOCATION:	
Sitting		Grade Level	
Standing/Entrance		Podium Level	
Leisure Walking		Balcony/Rooftop Level	
Business Walking			
Carpark/Roadway			

**Pedestrian Wind Comfort Conditions - Ground Floor**  
 Configuration 2: Proposed Development with Cumulative Surrounds and Proposed Landscaping  
 Summer Season

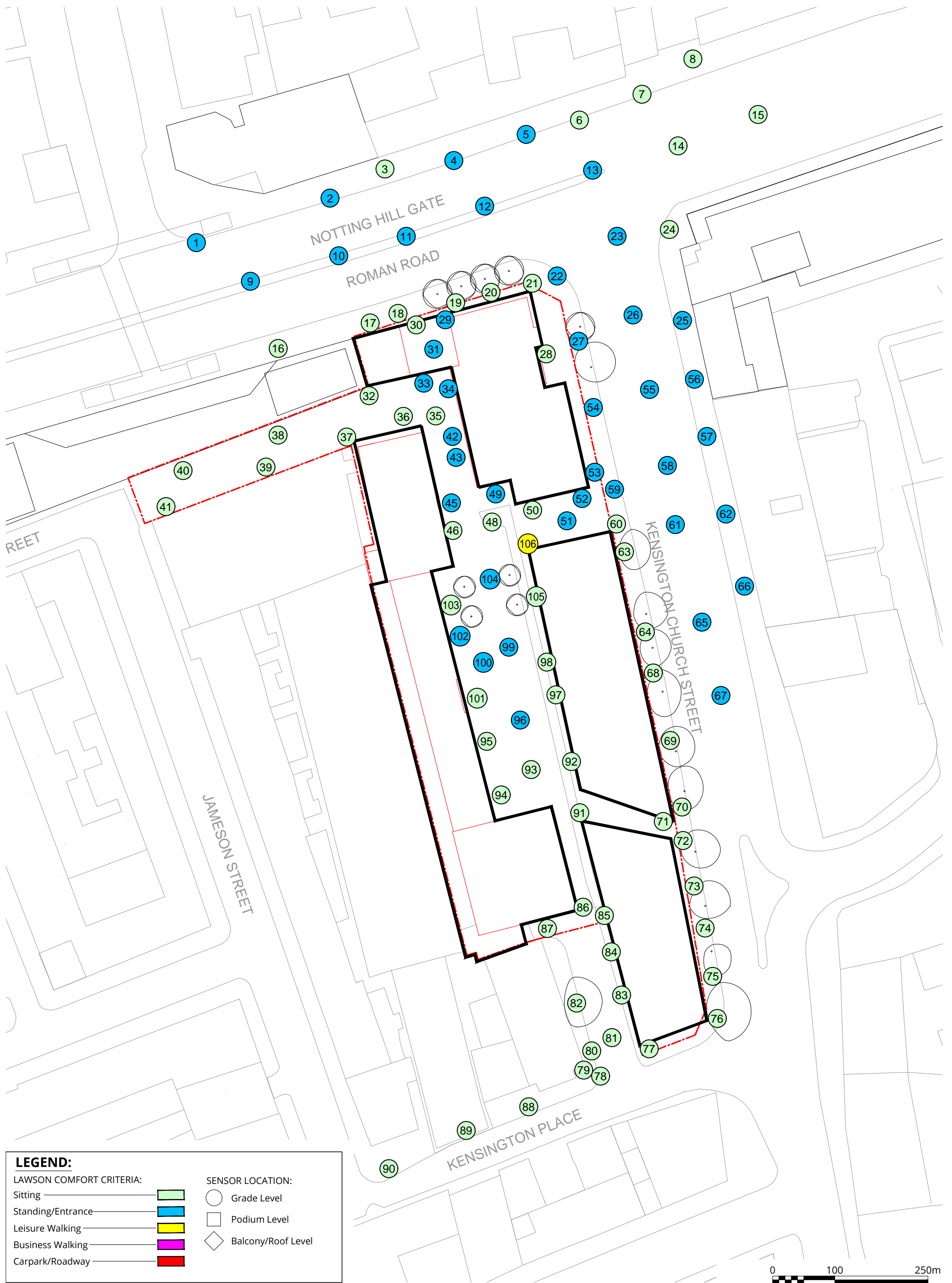
Newcombe House (Notting Hill Gate) - London, United Kingdom



Project #1803808

Drawn by: JLF	Figure: 13
Approx. Scale @A3: 1:600	
Date Revised: Jun. 29, 2018	





**LEGEND:**

LAWSON COMFORT CRITERIA:		SENSOR LOCATION:	
Sitting	<span style="color: green;">■</span>	○	Grade Level
Standing/Entrance	<span style="color: blue;">■</span>	□	Podium Level
Leisure Walking	<span style="color: yellow;">■</span>	◇	Balcony/Roof Level
Business Walking	<span style="color: pink;">■</span>		
Carpark/Roadway	<span style="color: red;">■</span>		

**Pedestrian Wind Comfort Conditions - Ground Floor**  
 Configuration 2: Proposed Development with Cumulative Surrounds and Proposed Landscaping  
 Autumn Season

Newcombe House (Notting Hill Gate) - London, United Kingdom



Project #1803808

Drawn by: JLF	Figure: 14
Approx. Scale @A3: 1:600	
Date Revised: Jun. 29, 2018	







**LEGEND:**

LAWSON COMFORT CRITERIA:		SENSOR LOCATION:	
Sitting		○ Grade Level	
Standing/Entrance		□ Podium Level	
Leisure Walking		◇ Balcony/Roof Level	
Business Walking			
Carpark/Roadway			



**Pedestrian Wind Comfort Conditions - Terrace Level**  
 Configuration 2: Proposed Development with Cumulative Surrounds and Proposed Landscaping  
 Windiest Season

Newcombe House (Notting Hill Gate) - London, United Kingdom



Project #1803808

Drawn by: JLF	Figure: 15
Approx. Scale @A3: 1:600	
Date Revised: Jun. 29, 2018	





**LEGEND:**

**LAWSON COMFORT CRITERIA:**

- Sitting
- Standing/Entrance
- Leisure Walking
- Business Walking
- Carpark/Roadway

**SENSOR LOCATION:**

- Grade Level
- Podium Level
- Balcony/Roof Level

**Pedestrian Wind Comfort Conditions - Terrace Level**

Configuration 2: Proposed Development with Cumulative Surrounds and Proposed Landscaping  
Spring Season

Newcombe House (Notting Hill Gate) - London, United Kingdom

True North



Drawn by: JLF Figure: 16

Approx. Scale @A3: 1:600

Date Revised: Jun. 29, 2018



Project #1803808



**LEGEND:**

LAWSON COMFORT CRITERIA:

- Sitting
- Standing/Entrance
- Leisure Walking
- Business Walking
- Carpark/Roadway

SENSOR LOCATION:

- Grade Level
- Podium Level
- Balcony/Roof Level

**Pedestrian Wind Comfort Conditions - Terrace Level**

Configuration 2: Proposed Development with Cumulative Surrounds and Proposed Landscaping  
Summer Season

Newcombe House (Notting Hill Gate) - London, United Kingdom

True North



Drawn by: JLF Figure: 17

Approx. Scale @A3: 1:600

Date Revised: Jun. 29, 2018



Project #1803808





**LEGEND:**

LAWSON COMFORT CRITERIA:		SENSOR LOCATION:	
Sitting		○ Grade Level	
Standing/Entrance		□ Podium Level	
Leisure Walking		◇ Balcony/Roof Level	
Business Walking			
Carpark/Roadway			

**Pedestrian Wind Comfort Conditions - Terrace Level**  
 Configuration 2: Proposed Development with Cumulative Surrounds and Proposed Landscaping  
 Autumn Season

Newcombe House (Notting Hill Gate) - London, United Kingdom



Project #1803808

Drawn by: JLF	Figure: 18
Approx. Scale @A3: 1:600	
Date Revised: Jun. 29, 2018	



**APPENDIX A: PHOTOGRAPHS OF THE WIND TUNNEL MODEL**

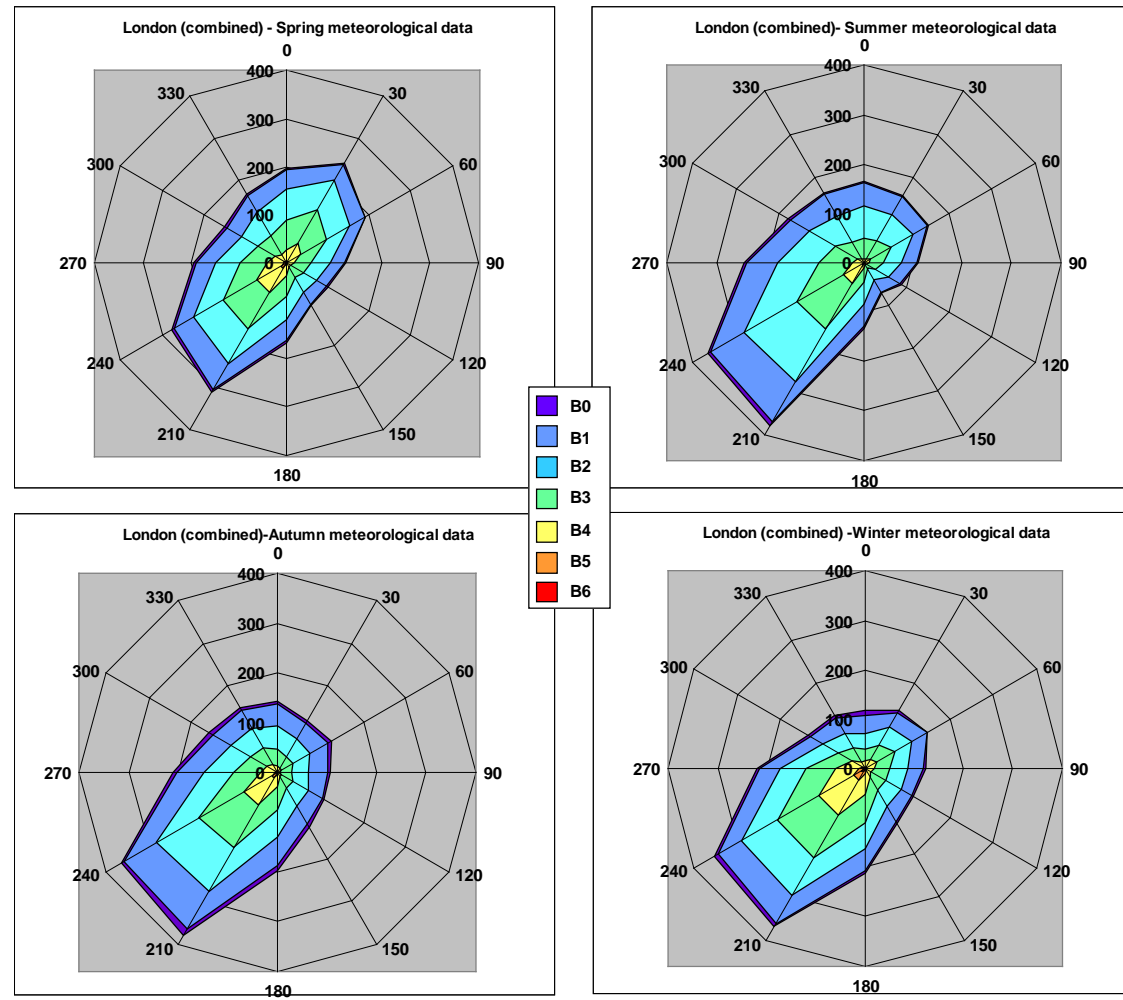


**Figure 19: The Proposed Development with existing surrounds (Configuration 1) – View in the Wind Tunnel (from the South)**



**Figure 20: The Proposed Development with cumulative surrounding buildings (Configuration 2) – View in the Wind Tunnel (from the South)**

**APPENDIX B: METEOROLOGICAL DATA**



**Figure 21: Seasonal wind roses for London (in Beaufort Force)**  
(Radial axis indicates the hours for which the stated Beaufort Range is exceeded)















Figure 25: Intensive Garden Level G+13 – Building CB

**APPENDIX D: LAWSON COMFORT CRITERIA**

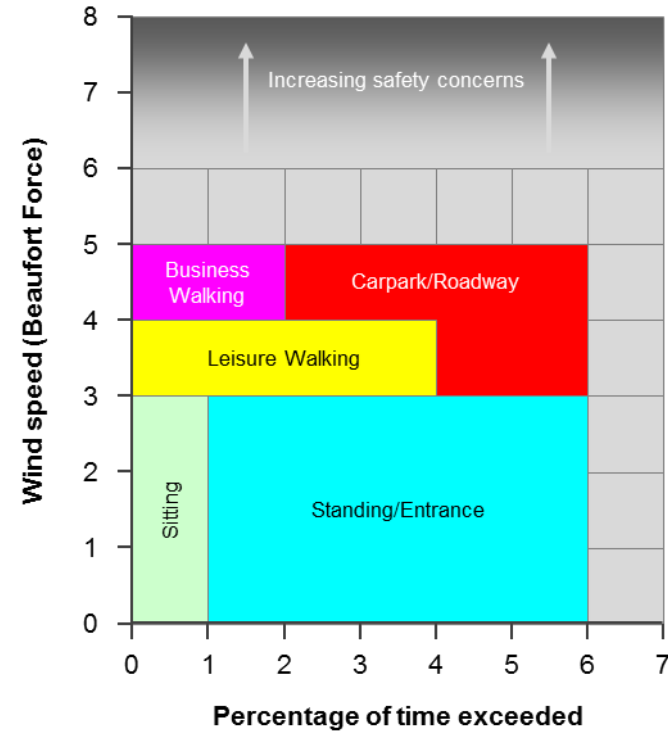


Figure 26: Graphical representation of the Lawson Comfort Criteria

Beaufort Force	Hourly Average Wind Speed (m/s)	Description of Wind	Noticeable Wind Effect
0	< 0.45	Calm	Smoke rises vertically.
1	0.45 – 1.55	Light Air	Direction shown by smoke drift but not by vanes.
2	1.55 – 3.35	Gentle Breeze	Wind felt on face; leaves rustle; wind vane moves.
3	3.35 – 5.60	Light Breeze	Leaves & twigs in motion; wind extends a flag.
4	5.60 – 8.25	Moderate Breeze	Raises dust and loose paper; small branches move.
5	8.25 – 10.95	Fresh Breeze	Small trees, in leaf, sway.
6	10.95 – 14.10	Strong Breeze	Large branches begin to move; telephone wires whistle.
7	14.10 – 17.20	Near Gale	Whole trees in motion.
8	17.20 – 20.80	Gale	Twigs break off; personal progress impeded.
9	20.80 – 24.35	Strong Gale	Slight structural damage; chimney pots removed.
10	24.35 – 28.40	Storm	Trees uprooted; considerable structural damage.
11	28.40 – 32.40	Violent Storm	Damage is widespread; unusual in the U.K.
12	> 32.40	Hurricane	Countryside is devastated; only occurs in tropical countries.

Table 4: Beaufort Land Scale