



Olympic
House,
Olympic Way,
Wembley

Noise Impact Assessment

March 2024



Ref: 24-12774
NIA Rev A

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1. Executive Summary

This report has been prepared to assess the noise impact of the proposed development at **Olympic House, 3 Olympic Way, Wembley Park, Wembley HA9 0JT**.

The proposals are for a temporary change of use for a period of 3 years in respect of a proposed open bar area, with opening hours 1000 hrs to 2230 hrs Monday to Sunday. The capacity of the bar area is proposed to be up to 350 people, however that level of custom would only ever be expected on the busiest event days at Wembley Stadium. On typical days the occupancy is expected to be no more than 50-100 people. On event days occupancy between approximately 300-350 people, or lower, would be expected depending on operational limits set by the police for particular events.

The site is in a predominantly commercial area on the mainly pedestrianised Olympic Way, which leads from Wembley Park train station to Wembley Stadium. The former office building immediately to the north of the site at 1 Olympic Way is currently being partially renovated to residential apartments. 1 Olympic Way is therefore the nearest noise sensitive receptor, at approximately 10m from the site boundary of 3 Olympic Way and approximately 25m from the main covered congregation area of the proposed bar area.

The results of the noise measurement study and previous noise measurements of similar activity noise have been utilised to determine the noise impact on the nearest noise sensitive receptors.

It has been identified that the use of the proposed bar area should not cause any adverse impacts on the health or quality of life of existing local residents on typical days.

On days of major events at Wembley Stadium, raised noise levels are expected, however, due to the context of the area with such events being infrequent, of a relatively short duration and an expected part of the local noise climate, significant adverse impacts would not be expected.

It can therefore be concluded that the proposed development would achieve the aims of the NPPF, London Plan, Local Planning Policy and the PPG-Noise in that it will avoid noise from giving rise to significant adverse impacts on the health or quality of life of local residents.

2. Introduction

This report has been prepared to assess the impact of activity noise from a proposed open bar area at ground floor level at **Olympic House, 3 Olympic Way, Wembley Park, Wembley HA9 0JT**.

A temporary change of use for a period of 3 years is being applied for in respect of the proposed bar area, with opening hours 1000 hrs to 2230 hrs Monday to Sunday. The capacity of the bar area is proposed to be up to 350 people, however that level of custom would only ever be expected on the busiest event days at Wembley Stadium. On typical days the occupancy is expected to be no more than 50-100 people. On event days occupancy between approximately 300-350 people, or lower, would be expected depending on operational limits set by the police for particular events.

The site is in a predominantly commercial area on the mainly pedestrianised Olympic Way, which leads from Wembley Park train station to Wembley Stadium. The former office building immediately to the north of the site at 1 Olympic Way is currently being partially renovated to residential apartments.

The report assesses, through on-site noise measurements and environmental noise modelling, the impact of the proposed roof terrace on the surrounding noise sensitive receptors.

A glossary of acoustic terminology is provided in **Appendix 1**.

The nearest sensitive receptors to the bar area are to the north at 1 Olympic Way, at approximately 10m from the site boundary of 3 Olympic Way and approximately 25m from the main covered congregation area of the proposed bar area. The location of the site and closest receptor are provided in context at **Figure 2.1**, as a closer view at **Figure 2.2** and an initial plan of the proposed bar area is provided in **Figure 2.3**.

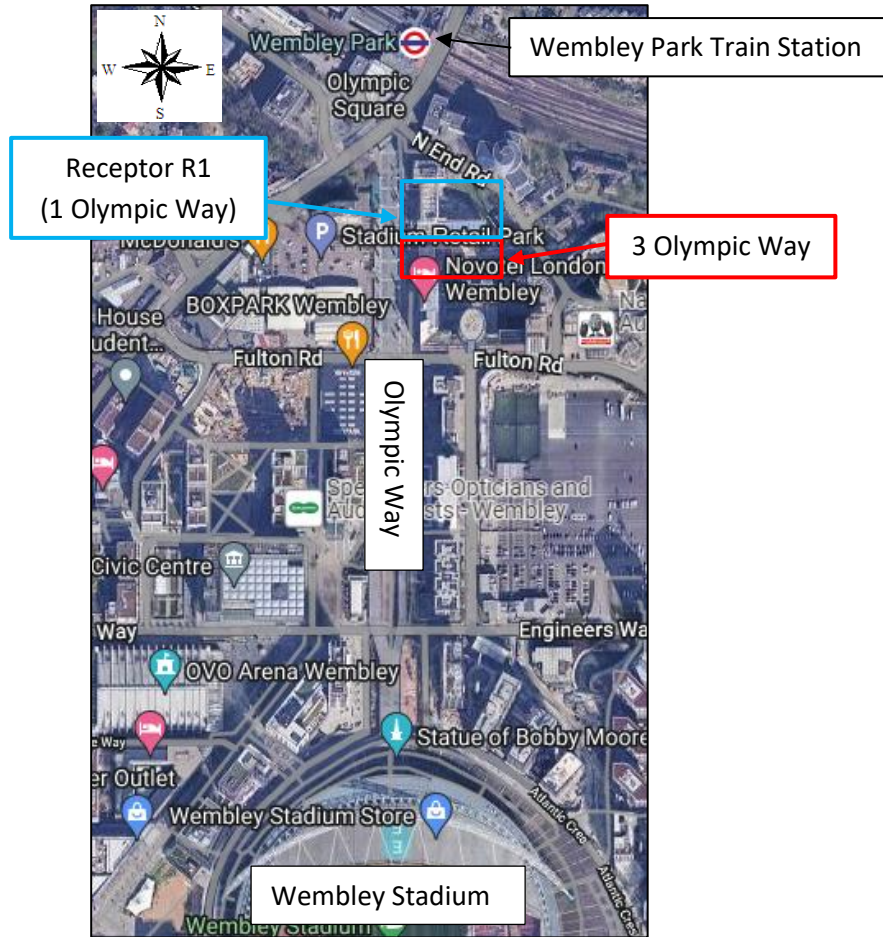


Figure 2.1: Site Location

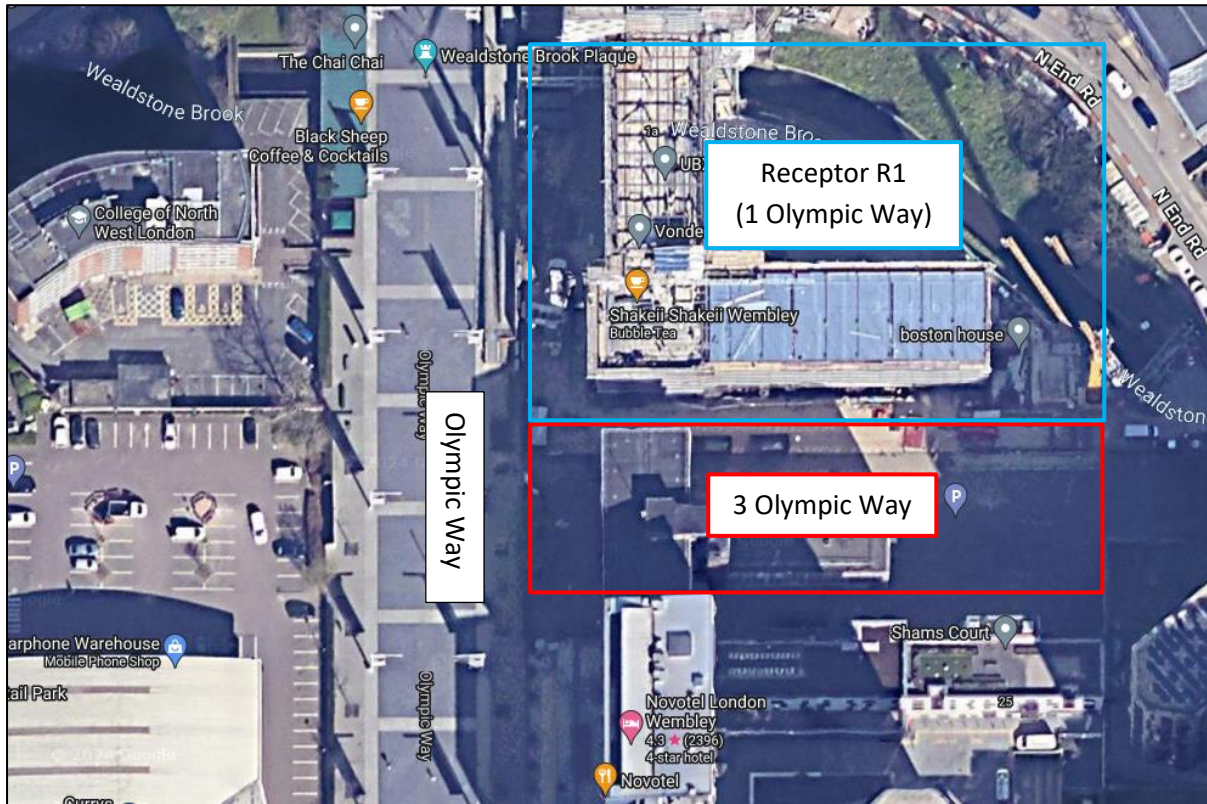


Figure 2.2: Detailed View of Site Location

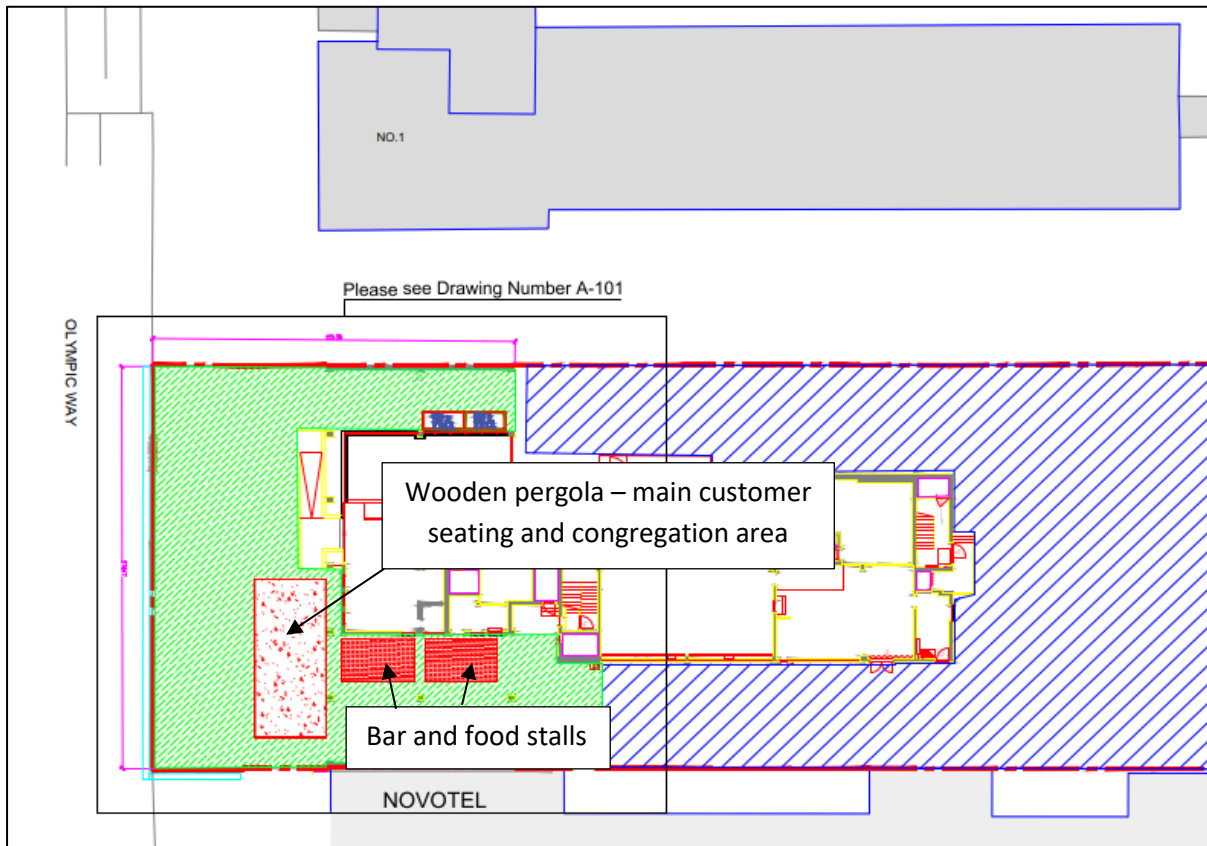


Figure 2.3: Proposed Bar Layout Plan

3. Planning Policy

3.1 National Planning Policy Framework

The National Planning Policy Framework (NPPF) was released in March 2012 and last updated in December 2023. The purpose of the planning system is to contribute to the achievement of sustainable development and to encourage good design. There are three dimensions to sustainable development: economic, social and environmental.

Central to the NPPF, paragraph 10 states: *'At the heart of the National Planning Policy Framework is a **presumption in favour of [permitting] sustainable development***'. This is expanded upon in paragraph 11, where it is stated:

*'...For **decision-taking** this means:*

- *approving development proposals that accord with an up-to-date development plan without delay; or*
- *where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date, granting permission unless:*
 - *the application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed; or*
 - *any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole'*

Paragraph 174 states *'Planning policies and decisions should contribute to and enhance the natural and local environment by... preventing new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by, unacceptable levels of... noise pollution...'*.

Paragraph 185 states: *'Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:*

- *mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life (see Explanatory Note to the Noise Policy Statement for England (DEFRA)).*
- *identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and*
- *limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.'*

3.2 Noise Policy Statement for England

The Noise Policy Statement for England (NPSE) aims to *'through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:*

- *avoid significant adverse impacts on health and quality of life;*
- *mitigate and minimise adverse impacts on health and quality of life; and*
- *where possible, contribute to the improvement of health and quality of life'*.

3.3 The London Plan

The London Plan (published March 2021) contains overarching policy for all developments in the Greater London area.

Policies D13 and D14 relate to noise and state:

“Policy D13 Agent of Change

A The Agent of Change principle places the responsibility for mitigating impacts from existing noise and other nuisance-generating activities or uses on the proposed new noise-sensitive development. Boroughs should ensure that Development Plans and planning decisions reflect the Agent of Change principle and take account of existing noise and other nuisance-generating uses in a sensitive manner when new development is proposed nearby.

B Development should be designed to ensure that established noise and other nuisance-generating uses remain viable and can continue or grow without unreasonable restrictions being placed on them.

C New noise and other nuisance-generating development proposed close to residential and other noise-sensitive uses should put in place measures to mitigate and manage any noise impacts for neighbouring residents and businesses.

D Development proposals should manage noise and other potential nuisances by:

- 1) ensuring good design mitigates and minimises existing and potential nuisances generated by existing uses and activities located in the area*
- 2) exploring mitigation measures early in the design stage, with necessary and appropriate provisions including ongoing and future management of mitigation measures secured through planning obligations*
- 3) separating new noise-sensitive development where possible from existing noise-generating businesses and uses through distance, screening, internal layout, sound-proofing, insulation and other acoustic design measures.*

E Boroughs should not normally permit development proposals that have not clearly demonstrated how noise and other nuisances will be mitigated and managed.”

“Policy D14 Noise

A In order to reduce, manage and mitigate noise to improve health and quality of life, residential and other non-aviation development proposals should manage noise by:

- 1) avoiding significant adverse noise impacts on health and quality of life*
- 2) reflecting the Agent of Change principle as set out in Policy D13 Agent of Change*
- 3) mitigating and minimising the existing and potential adverse impacts of noise on, from, within, as a result of, or in the vicinity of new development without placing unreasonable restrictions on existing noise-generating uses*
- 4) improving and enhancing the acoustic environment and promoting appropriate soundscapes (including Quiet Areas and spaces of relative tranquillity)*

5) separating new noise-sensitive development from major noise sources (such as road, rail, air transport and some types of industrial use) through the use of distance, screening, layout, orientation, uses and materials – in preference to sole reliance on sound insulation

6) where it is not possible to achieve separation of noise-sensitive development and noise sources without undue impact on other sustainable development objectives, then any potential adverse effects should be controlled and mitigated through applying good acoustic design principles

7) promoting new technologies and improved practices to reduce noise at source, and on the transmission path from source to receiver.

Boroughs, and others with relevant responsibilities, should identify and nominate new Quiet Areas and protect existing Quiet Areas in line with the procedure in Defra’s Noise Action Plan for Agglomerations.”

3.4 Local Planning Policy

The site is located within the administrative boundary of the London Borough of Brent.

Brent Local Plan 2019-2041 (adopted February 2022) contains the following relevant policy:

“POLICY DMP1 DEVELOPMENT MANAGEMENT GENERAL POLICY

Subject to other policies within the development plan, development will be acceptable provided it is:

- a) of a location, use, concentration, siting, layout, scale, type, density, materials, detailing and design that provides high levels of internal and external amenity and complements the locality;*
- b) satisfactory in terms of means of access for all, parking, manoeuvring, servicing and does not have an adverse impact on the movement network;*
- c) provided with the necessary physical and social infrastructure;*
- d) conserving and where possible enhancing the significance of heritage assets and their settings;*
- e) maintaining or where possible enhancing sites of ecological importance;*
- f) safe, secure and reduces the potential for crime;*
- g) not unacceptably increasing, and where possible reducing, exposure to flood risk, noise, dust, contamination, smells, waste, light, other forms of pollution and general disturbance or detrimentally impacting on air or water quality;*
- h) retaining existing blue and green infrastructure including water ways, open space, high amenity trees and landscape features and providing appropriate additions or enhancements where possible; and*
- i) resulting in no loss of, and where possible enhancing, community facilities or other land/buildings for which there is an identified need.”*



4. Guidance Documents

4.1 Planning Practice Guidance for Noise

The Planning Practice Guidance for Noise (PPG-Noise) was published in March 2014 and last updated in July 2019. The PPG provides advice on how to determine the noise impact on development:

'Plan-making and decision making need to take account of the acoustic environment and in doing so consider:

- *whether or not a significant adverse effect is occurring or likely to occur;*
- *whether or not an adverse effect is occurring or likely to occur; and*
- *whether or not a good standard of amenity can be achieved.*

In line with the Explanatory Note of the Noise Policy Statement for England, this would include identifying whether the overall effect of the noise exposure (including the impact during the construction phase wherever applicable) is, or would be, above or below the significant observed adverse effect level and the lowest observed adverse effect level for the given situation. As noise is a complex technical issue, it may be appropriate to seek experienced specialist assistance when applying this policy.'

The document goes on to provide a definition for the levels of noise exposure at which an effect may occur:

'Significant observed adverse effect level: *this is the level of noise exposure above which significant adverse effects on health and quality of life occur.*

Lowest observed adverse effect level: *this is the level of noise exposure above which adverse effects on health and quality of life can be detected.*

No observed effect level: *this is the level of noise exposure below which no effect at all on health and quality of life can be detected.'*

It is important to understand that as the PPG-Noise does not provide any advice with respect to specific noise levels/ limits for different sources of noise, it is appropriate to consider other sources of advice and guidance documents when considering whether new developments would be sensitive to the prevailing acoustic environment.

4.2 Assessment Criteria for Noise from External Areas

There are no specific noise criteria that particularly relate to the impact of activity noise from the use of outdoor bar areas on noise sensitive receptors. BS 8233:2014 *"Guidance on sound insulation and noise reduction for buildings"* and the World Health Organization *"Guidelines for Community Noise"* both contain relevant noise criteria and set out guideline noise limits that would normally be considered acceptable for a range of noise sources. BS 8233 states that these noise levels relate to *"sources without a specific character"*. Whilst not strictly applicable to this sort of activity noise, which could be described as having a *"specific character"*, the criteria can assist in providing an indication as to the acceptability of noise from this specific source.

Noise predictions can be made of the likely anticipated noise levels arising from the activities at the closest residential receptors and these can be compared to guideline noise levels, in order to determine the acceptability of the proposals. Accordingly, the proposed acceptability criteria for this development are outlined in **Table 4.1** below.

Data Source	Criterion	Location	Ambient Noise Level $L_{Aeq,T}$
			Daytime (0700 hrs – 2300 hrs)
WHO	To prevent annoyance in external amenity areas	Outside dwellings	50
BS 8233	To ensure a reasonable resting condition inside living rooms	Internal	35

Table 4.1: Summary of Noise Criteria: BS 8233 & WHO

It is also important to understand the extent to which noise from the proposed activity areas would potentially intrude over and above the existing ambient noise levels. Therefore, a comparison of typical activity noise with existing ambient noise levels has also been made.

5. Baseline Noise Levels

In order to determine the baseline noise levels in the vicinity of the proposals, measurements have been carried out in order to characterise the existing noise climate over a five day period.

Noise at the site consisted entirely of distant road traffic. During periods of high activity on days of activity at Wembley Stadium, noise from crowds walking on Olympic Way is likely to be the dominant noise source at site.

The noise measurements utilised a Norsonic 140 Type 1 Precision Sound Level Meter with a current certificate of calibration, the full list of equipment is detailed in **Appendix 3**. Before and after the measurement period the equipment was calibrated in order to ensure that the equipment had remained within reasonable calibration limits (+/- 0.5 dB). Noise Measurements were carried out in consecutive 5 minutes periods with a 1 second resolution.

Measurements were carried out between 1300 hrs on Friday 23rd February 2024 and 1200 hrs on Tuesday 27th February 2024.

During the noise measurement survey the temperature was up to 10°C during daytime and dropped to a low of -2°C at night. There was generally a very low (<1 m/s) south-westerly wind during the noise measurement survey. From midday on Sunday 25th February until the late evening of Monday 26th February there was very high (> 5m/s) north-easterly winds and therefore the time period from Sunday at 1200 hrs and all of the Monday has been discounted from the assessment period.

Additionally, there was a highly attended football match at Wembley Stadium on the afternoon of Sunday 25th February 2024 which significantly affected noise levels between approximately 1100 hrs and 2100 hrs. Much of this time period has already been removed from the analysis due to weather conditions and the additional hour (1100 hrs – 1200 hrs) has also been removed from the analysis of typical days to ensure that this did not unduly affect the assessment.

Noise measurements were carried out at Measurement Position 1 (MP1) in a free field location, at a height of approximately 1.5m above roof height of the existing Olympic House. The position is considered representative of the noise climate at the adjacent residential receptors to the north.

The noise monitoring position is shown in **Figure 5.1**.

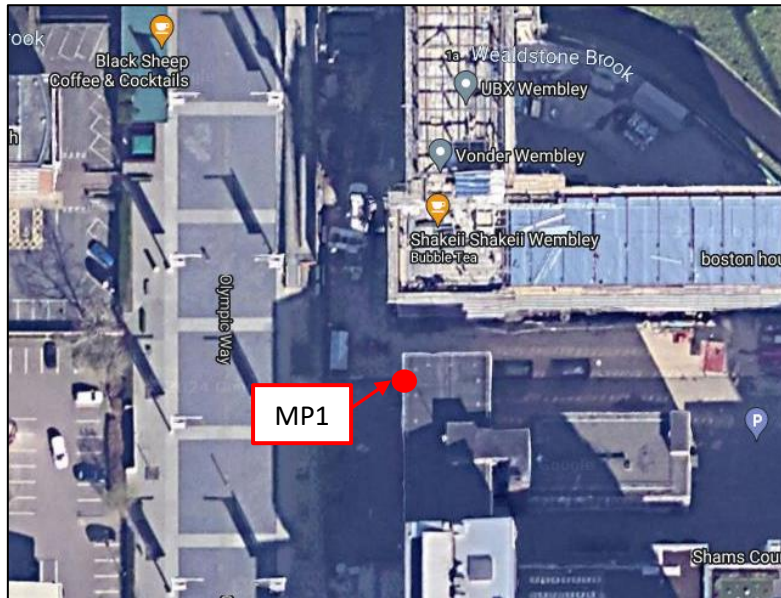


Figure 5.1: Noise Monitoring Location

Table 5.1 below displays a summary of the measured noise levels for the proposed opening hours (1000 hrs – 2230 hrs) for those days of good data. As an indication of existing noise levels during the busiest times on event days at Wembley Stadium, the time period 1100 hrs – 1500 hrs has been taken on the Sunday of measurements (25th February 2024) as representative, which happened to be the EFL Cup Final football match for 2024. It is noted that some of this data is potentially weather affected due to high winds, however due to the high noise levels from the crowd the effects of weather during this time are likely to be limited. Detailed measurement results are presented in **Appendix 4**.

Measurement Position	Period (hours)	L _{Aeq,T} (dB)
MP1	Opening Hours outside of events (1000-2230)	59
	Opening Hours during events (1100-1500 on Sunday 25 th February 2024)	66

Table 5.1: Summary of Free Field Semi-Permanent Noise Levels

Note: The average noise levels stated are logarithmic for L_{Aeq}.

6. Activity Noise Levels

The noise levels from the use of the bar area at the nearest noise sensitive receptors have been predicted using standard acoustic formulae.

To represent the noise levels in the rear seating area, Syntegra have utilised sound power data for a human voice speaking at normal vocal effort, taken from ANSI 3.5, giving 68 dB A-weighted sound power for each person talking. We have assumed that the bar area behaves as an area source at 1m elevation above the ground. We have also assumed that one in three customers will be talking with raised voices at any one time.

On typical days, a worst-case 100 people has been assumed, located within the main seating/congregation area under the wooden pergola approximately 25m from the nearest noise sensitive receptor (1 Olympic Way).

On event days, a worst-case 350 people has been assumed, likely to be located within the full outdoor area in front of 3 Olympic Way, located between approximately 10m and 40m from the nearest noise sensitive receptor (1 Olympic Way).

A -5 dB screening correction has been taken to account for the partial shielding likely to be provided by the existing building at 3 Olympic Way.

The predicted noise levels at the nearest noise sensitive receptor are presented in **Table 6.1**.

	Receptor – 1 Olympic Way
Typical Day	
Sound Power Level of 1 speaker (L _{WA} dB)	68
Correction for additional speakers (33 total) (dB)	+15
Distance to Nearest Habitable Room Window (approx.)	25m
Distance Correction (plane source) (dB)	-21
Screening Correction (dB)	-5
Predicted Noise Level at Receptor (L_{Aeq} dB)	57
Busiest Event Day	
Sound Power Level of 1 speaker (L _{WA} dB)	68
Correction for additional speakers (117 total) (dB)	+21
Distance to Nearest Habitable Room Window (approx.)	15m ¹
Distance Correction (plane source) (dB)	-6
Screening Correction (dB)	-5
Predicted Noise Level at Receptor (L_{Aeq} dB)	78

Table 6.1: Predicted Activity Noise Levels

Note: (1) Source to receptor distance taken to be a reasonable distance inside the boundary due to the spread of people and unlikelihood of significant numbers of people congregating on the boundary itself.

7. Noise Impact Assessment

In order to determine the noise impact and the acceptability of the noise from the use of the bar area, a comparison has been carried out against the noise criteria identified in **Section 4.2**. **Table 7.1** provides a summary of the assessment against the existing ambient noise level and against the BS 8233 and World Health Organization Guidelines criteria (refer to **Section 4.2**).

Assessment Scenario	Predicted External Noise Level at Receptor L_{Aeq} (dB)	Existing Ambient Noise Level L_{Aeq} (dB) ¹	Comparison against Existing Ambient Noise Level (dB)	Predicted Internal Noise Level at Receptor L_{Aeq} (dB)
Typical Day	57	59	-2	29
Busiest Event Day	78	66	+12	50

Table 7.1: Comparison of Noise Levels at 1 Olympic Way

Notes: (1) Internal noise levels have been predicted with closed windows providing a minimum 28 dB reduction (as would be expected from typical double glazed windows). This approach has been taken as the existing ambient noise levels would also not achieve the internal noise level criteria with windows open.

(2) The assessment of internal noise levels considers the predicted noise from the activities only, and not the existing ambient noise level.

It can be identified from **Table 7.1** that the activity noise levels associated with the use of the proposed bar area would be just below the existing ambient noise levels during the daytime. As the bar area is not expected to be open beyond 2230 hrs, this is unlikely to interfere with sleep. Additionally, the calculations assume worst-case occupancy and it is likely, especially later in the evening, that occupancy would be reduced on most days. Internal noise levels, assuming windows closed, would remain a good margin below the BS 8233 criteria, which, whilst not strictly applicable to activity noise, provides a reasonable indication as to the acceptability of the noise levels. **Accordingly, adverse impacts on the health or quality of life of existing local residents on typical days are unlikely.**

Table 7.1 also identifies that the activity noise levels on the busiest event days are likely to significantly increase the existing ambient noise level at the nearest noise sensitive receptor. However, it is noted that this would not occur over a long period of time, primarily in the build up to events as people congregate on Olympic Way. This would also not be new people coming to the area on event days, however it is noted that this would congregate some people in an area closer to the nearest noise sensitive receptor. Major events at Wembley Stadium attracting such a number of people are also relatively infrequent occurrences happening on a handful of occasions throughout the year. Finally, Syntegra note that such a noise climate should be expected by residents along Olympic Way during these infrequent event days and therefore such an increase in noise levels above typical days would not be unexpected.

On balance, given the existing noise climate in the area on event days, the relatively worst-case assumptions made, the relatively short time period the worst-case noise levels are likely to be experienced and the infrequency of these events; these predicted raised noise levels are not expected to result in any significant adverse impacts to the health and quality of life of nearby residential receptors on event days.

8. Conclusion

This report has been prepared to assess the noise impact of the proposed development at **Olympic House, 3 Olympic Way, Wembley Park, Wembley HA9 0JT**.

The proposals are for a temporary change of use for a period of 3 years in respect of a proposed open bar area, with opening hours 1000 hrs to 2230 hrs Monday to Sunday. The capacity of the bar area is proposed to be up to 350 people, however that level of custom would only ever be expected on the busiest event days at Wembley Stadium. On typical days the occupancy is expected to be no more than 50-100 people. On event days occupancy between approximately 300-350 people, or lower, would be expected depending on operational limits set by the police for particular events.

The results of the noise measurement study and previous noise measurements of similar activity noise have been utilised to determine the noise impact on the nearest noise sensitive receptors.

It has been identified that the use of the proposed bar area should not cause any adverse impacts on the health or quality of life of existing local residents on typical days.

On days of major events at Wembley Stadium, raised noise levels are expected, however, due to the context of the area with such events being infrequent, of a relatively short duration and an expected part of the local noise climate, significant adverse impacts would not be expected.

It can therefore be concluded that the proposed development would achieve the aims of the NPPF, London Plan, Local Planning Policy and the PPG-Noise in that it will avoid noise from giving rise to significant adverse impacts on the health or quality of life of local residents.



9. Appendix 1: Glossary of Acoustic Terminology

Term	Description
'A'-Weighting	<i>This is the main way of adjusting measured sound pressure levels to take into account human hearing, and our uneven frequency response.</i>
Decibel (dB)	<i>This is a tenth (deci) of a bel. The decibel can be a measure of the magnitude of sound, changes in sound level and a measure of sound insulation. Decibels are not an absolute unit of measurement but are an expression of ratio between two quantities expressed in logarithmic form.</i>
$L_{Aeq,T}$	<i>The equivalent steady sound level in dB containing the same acoustic energy as the actual fluctuating sound level over the given period, T. T may be as short as 1 second when used to describe a single event, or as long as 24 hours when used to describe the noise climate at a specified location. $L_{Aeq,T}$ can be measured directly with an integrating sound level meter.</i>
L_{A10}	<i>The 'A'-weighted sound pressure level of the residual noise in decibels exceeded for 10 per cent of a given time and is the L_{A10T}. The L_{A10} is used to describe the levels of road traffic noise at a particular location.</i>
L_{A50}	<i>The 'A'-weighted sound pressure level of the residual noise in decibels exceeded for 50 per cent of a given time and is the L_{A50T}.</i>
L_{A90}	<i>The 'A'-weighted sound pressure level of the residual noise in decibels exceeded for 90 per cent of a given time and is the L_{A90T}. The L_{A90} is used to describe the background noise levels at a particular location.</i>
L_{Amax}	<i>The 'A'-weighted maximum sound pressure level measured over a measurement period.</i>

10. Appendix 2: Professional Statement

David Yates

David Yates is a full member of the Institute of Acoustics (MIOA) and has approximately 15 years' experience in acoustic consultancy. David has particular expertise in environmental noise providing acoustic consultancy for residential and mixed use planning applications, plant noise and vibration, construction noise and the design of acoustic, noise and vibration control. David is also experienced in providing sound insulation testing and design advice. David is familiar with the application of all relevant standards associated with his work, including but not limited to, BS 4142, BS 8233, BS 7445, BS 6472, BS 5228, BS 140 series, BS 16283 series and BS 717 series. David manages the acoustic department and is responsible for maintaining Syntegra's ANC membership.

11. Appendix 3: List of Equipment

Equipment Type	Manufacturer	Serial Number	Calibration Certification Number	Date of Last Calibration Check
Nor-140 Type 1 Sound Level Meter	Norsonic	1406389	TCRT23/1839	November 2023
Nor-1225 Microphone	Norsonic	225519	TCRT23/1839	November 2023
Nor-1209 Preamplifier	Norsonic	20598	TCRT23/1839	November 2023
Nor-1251 Sound Calibrator	Norsonic	35115	TCRT23/1833	November 2023

12. Appendix 4: Detailed Noise Measurement Results

Measured Noise levels – MP1 – 23.02.2024

Time	L _{Aeq,T} (dB)	L _{AF(max)} (dB)	L _{A10} (dB)	L _{A90} (dB)
1300-1400	59	80	59	57
1400-1500	58	80	59	57
1500-1600	59	83	59	57
1600-1700	59	83	60	57
1700-1800	60	77	60	58
1800-1900	58	73	58	58
1900-2000	58	78	58	57
2000-2100	57	73	58	57
2100-2200	57	76	57	57
2200-2300	57	77	57	56
2300-0000	56	76	57	56
1300-2300	58	78	59	57
2300-0000	56	76	57	56

Measured Noise levels – MP1 – 24.02.2024

Time	L _{Aeq,T} (dB)	L _{AF(max)} (dB)	L _{A10} (dB)	L _{A90} (dB)
0000-0100	55	76	56	54
0100-0200	55	75	55	53
0200-0300	53	79	55	52
0300-0400	53	76	56	51
0400-0500	52	65	52	51
0500-0600	52	75	53	51
0600-0700	53	68	53	51
0700-0800	55	78	56	54
0800-0900	56	76	56	55
0900-1000	57	70	58	57
1000-1100	61	87	64	57
1100-1200	61	85	65	58
1200-1300	58	75	59	58
1300-1400	58	80	58	57
1400-1500	58	84	58	57
1500-1600	58	83	59	57
1600-1700	59	75	58	57
1700-1800	58	84	59	57
1800-1900	59	82	61	57
1900-2000	58	80	60	57
2000-2100	58	77	60	57
2100-2200	57	72	58	56
2200-2300	57	78	58	56
2300-0000	59	74	60	55
0700-2300	58	79	59	57
2300-0700	55	73	55	52



Measured Noise levels – MP1 – 25.02.2024

Time	L _{Aeq,T} (dB)	L _{AF(max)} (dB)	L _{A10} (dB)	L _{A90} (dB)
0000-0100	57	88	59	54
0100-0200	56	74	58	53
0200-0300	53	69	54	52
0300-0400	52	67	52	52
0400-0500	52	67	53	51
0500-0600	51	65	51	51
0600-0700	52	73	53	52
0700-0800	54	78	54	54
0800-0900	57	76	59	55
0900-1000	59	79	63	56
1000-1100	58	78	60	56
1100-1200	60	73	62	62
1200-1300	63	76	64	63
1300-1400	64	82	65	65
1400-1500	70	84	73	67
1500-1600	68	80	71	58
1600-1700	59	73	60	58
1700-1800	59	84	59	58
1800-1900	63	91	66	63
1900-2000	67	82	69	59
2000-2100	60	76	61	59
2100-2200	60	79	61	58
2200-2300	59	75	61	57
2300-0000	59	73	61	55
0700-2300	64	79	63	59
2300-0700	55	72	55	52



Measured Noise levels – MP1 – 26.02.2024

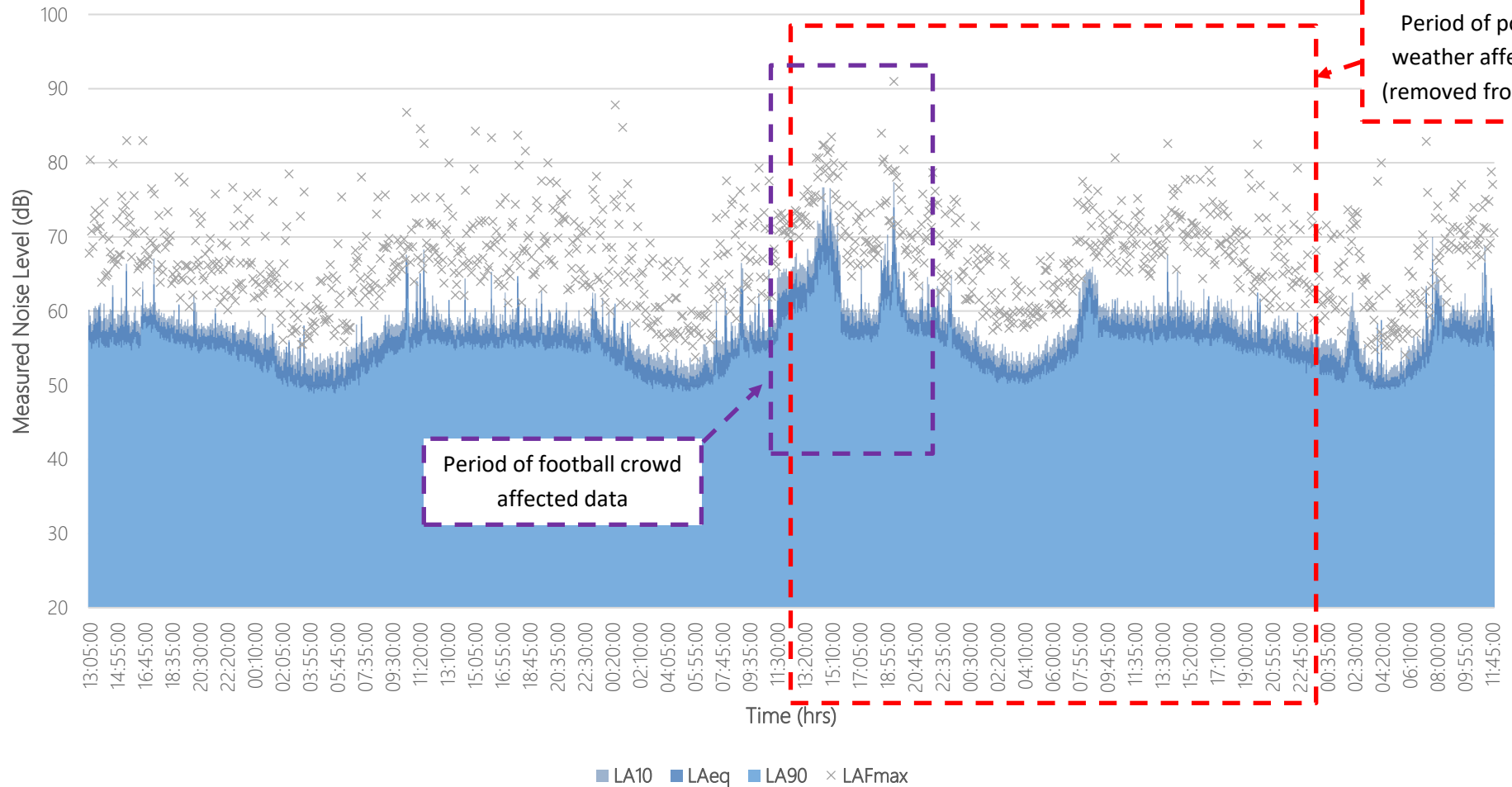
Time	L _{Aeq,T} (dB)	L _{AF(max)} (dB)	L _{A10} (dB)	L _{A90} (dB)
0000-0100	56	72	56	54
0100-0200	54	68	55	52
0200-0300	53	66	54	52
0300-0400	52	63	53	52
0400-0500	52	67	53	53
0500-0600	53	67	54	54
0600-0700	55	75	56	55
0700-0800	57	78	58	60
0800-0900	63	76	64	59
0900-1000	60	81	62	58
1000-1100	59	75	60	58
1100-1200	59	73	59	58
1200-1300	60	83	60	58
1300-1400	59	77	60	59
1400-1500	59	78	60	58
1500-1600	59	79	60	58
1600-1700	59	74	59	58
1700-1800	58	71	58	57
1800-1900	58	83	60	56
1900-2000	58	77	61	56
2000-2100	57	76	57	56
2100-2200	56	79	57	55
2200-2300	55	73	56	55
2300-0000	54	72	55	54
0700-2300	59	77	60	57
2300-0700	54	69	54	53



Measured Noise levels – MP1 – 27.02.2024

Time	L _{Aeq,T} (dB)	L _{AF(max)} (dB)	L _{A10} (dB)	L _{A90} (dB)
0000-0100	54	72	55	54
0100-0200	53	74	54	52
0200-0300	56	73	57	53
0300-0400	52	78	53	51
0400-0500	54	80	58	51
0500-0600	51	61	52	51
0600-0700	54	70	54	53
0700-0800	60	87	63	55
0800-0900	60	72	62	58
0900-1000	59	77	60	58
1000-1100	58	74	59	58
1100-1200	61	79	62	57
0700-1200	60	78	61	57
0000-0700	54	73	55	52

MP1 Measured Noise Levels from 1305 hrs on 23/02/2024 to 1155 hrs on 27/02/2024



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