

NOISE IMPACT ASSESSMENT

Proposed Takeaway Kitchen

16 Oldham St, Manchester

Issue Date: 22 January 2025

QUALITY ASSURANCE & REPORT INFORMATION

Report Version	R1	R2	R3	R4
Prepared by	John Goodwin MIOA			
Position	Director			
Reviewed by	Martyn Parker MIOA			
Position	Principal Consultant			
Issue Date	22 January 2025			
Comments	First issue			

Project: Proposed Takeaway Kitchen

Client: Mr Ali Raza Ahmad

Reference: 24.309.1.R1

This report has been prepared by Professional Consult Limited in accordance with the agreed terms and conditions of the appointment. Professional Consult Limited cannot accept any responsibility for use of, or reliance on, the contents of this report by any third party.

Professional Consult Limited is registered in England (11635570). Registered Office: 534 Edenfield Road, Rochdale, Lancashire OL12 7QJ

Professional Consult Limited

hello@professionalconsult.co.uk

www.professionalconsult.co.uk



EXECUTIVE SUMMARY

This Assessment has shown that, with regards to the combination of people talking inside the building and use of the kitchen extract system, the change in ambient noise level at the closest residential receptor does not exceed the existing adopted noise criteria level and as such there are no requirements for noise mitigation measures.

In summary, the predicted level of noise from the Development is sufficiently low enough at the closest residential dwellings to accord with the 'No Observed Adverse Effect Level' as detailed in the PPG and as such noise should not be deemed to be a determining factor in the granting of planning permission for this Site.

TABLE OF CONTENTS

1	INTRODUCTION	3
2	POLICY & GUIDANCE	5
3	NOISE SURVEY	9
4	NOISE IMPACT ASSESSMENT	11
5	MITIGATION	14
6	CONCLUSION	15
APPENDIX 1:	LIMITATIONS	16
APPENDIX 2:	GLOSSARY OF ACOUSTIC TERMINOLOGY	17
APPENDIX 3:	PROPOSED MASTERPLAN	19
APPENDIX 4:	FIGURES	20
APPENDIX 5:	MEASURED BACKGROUND NOISE LEVELS	22

1 INTRODUCTION

1.1 Appointment

- 1.1.1 Professional Consult Limited was instructed by Mr Ali Raza Ahmad to prepare a Noise Impact Assessment ('the Assessment') in support of a proposed takeaway kitchen ('the Development') at 16 Oldham St in Manchester M1 1JQ, to be referred to hereafter as 'the Building'.

1.2 Purpose of Assessment

- 1.2.1 Manchester City Council have commented on the proposed scheme with regards to noise as follows:

'There will be more intensive noise than just from a shop, plant is also proposed and we need to ensure that there will not be any adverse impact from additional noise sources to adjacent occupiers.'

An acoustic study identifying ambient noise levels during daytime, night time and weekends along with an indication of noise levels that you propose to achieve within the accommodation and details of the acoustic glazing and acoustically treated ventilation you propose to use. In terms of any proposed A3/A4/A5/live music venue or nightclub use the acoustic study should identify the acoustic treatment and measures that will limit the breakout of noise in accordance with a noise study of the premises and a scheme of acoustic treatment. The scheme proposed shall include measures such as acoustic lobbies at access and egress points of the premises, acoustic treatment of the building structure, sound limiters linked to sound amplification equipment and specified maximum internal noise levels.'

- 1.2.2 Accordingly, this Assessment has been completed with due regard to the National Planning Policy Framework and its associated National Planning Policy Guidance in addition to appropriate British Standards and guidance documents relevant to the assessment of noise impacts.

- 1.2.3 All acronyms used within this report are defined in the Glossary presented in Appendix 2.

1.3 The Development

- 1.3.1 The Development will comprise of a kitchen extract unit which will be contained entirely within the proposed kitchen of the premises with no external extraction points. The only potential source of noise which may impact upon the closest residential dwellings will be the internal noise from the proposed kitchen extract system and an increased number of patrons within the building.

- 1.3.2 The Development will operate over the following time periods:

- Monday – Friday: 08:00 – 20:00;
- Saturday: 09:00 – 23:00; and
- Sunday: 10:00 – 18:00.

1.4 The Building, Locality & Soundscape

- 1.4.1 The Building is currently in use as a convenience shop located on Oldham St.
- 1.4.2 The closest residential receptors to the Building are understood to be the apartment dwellings known as Regents Court Apartments, located at first-floor approximately 15m south west of the Site.
- 1.4.3 The soundscape at the closest residential dwellings is typical of a city centre location with significant noise from vehicles using Oldham St and noise from people.

1.5 Limitations

1.5.1 The limitations of this report are presented in Appendix 1.

1.6 Confidentiality

1.6.1 Professional Consult has prepared this report solely for the use of the Client. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from Professional Consult; a charge may be levied against such approval.

2 POLICY & GUIDANCE

2.1 National Planning Policy Framework & National Planning Practice Guidance

- 2.1.1 The Government updated the National Planning Policy Framework (NPPF) on 12th December 2024 and its associated National Planning Practice Guidance (NPPG) on 14th February 2024. Together, the NPPF and NPPG set out what the Government expects of local authorities. The overall aim is to ensure the planning system allows land to be used for new homes and jobs, while protecting valuable natural and historic environments.
- 2.1.2 The NPPG adds further context to the NPPF and it is intended that the two documents should be read together.
- 2.1.3 Noise needs to be considered when new developments may create additional noise and when new developments would be sensitive to the prevailing acoustic environment. When preparing local or neighbourhood plans, or taking decisions about new development, there may also be opportunities to consider improvements to the acoustic environment.
- 2.1.4 Local planning authorities' plan-making and decision making should take account of the acoustic environment and in doing so consider:
- ② Whether or not a significant adverse effect is occurring or likely to occur;
 - ② Whether or not an adverse effect is occurring or likely to occur; and
 - ② Whether or not a good standard of amenity can be achieved.
- 2.1.5 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.
- 2.1.6 The Observed Effect Levels are as follows:
- ② Significant observed adverse effect level: This is the level of noise exposure above which significant adverse effects on health and quality of life occur;
 - ② 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; and
 - ② No observed effect level: this is the level of noise exposure below which no effect at all on health or quality of life can be detected.
- 2.1.7 Table 1 summarises the noise exposure hierarchy, based on the likely average response.

Table 1. Noise Exposure Hierarchy

Perception	Examples of Outcomes	Increasing Effect Level	Action
No Observed Effect Level			
Not present	No Effect	No Observed Effect	No specific measures required
No Observed Adverse Effect Level			
Present & not intrusive	Noise can be heard but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No Observed Adverse Effect	No specific measures required
Lowest Observed Adverse Effect Level			
Present & Intrusive	Noise can be heard and causes small changes in behaviour and/or attitude, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level			
Present & disruptive	The noise causes a material change in behaviour and/or attitude, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Effect	Avoid
Present & very disruptive	Extensive and regular changes in behaviour and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect	Prevent

2.1.8 The subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation.

2.1.9 These factors include:

- ② The source and absolute level of the noise together with the time of day it occurs. Some types and level of noise will cause a greater adverse effect at night than if they occurred during the day - this is because people tend to be more sensitive to noise at night as they are trying to sleep. The adverse effect can also be greater simply because there is less background noise at night;
- ② For non-continuous sources of noise, the number of noise events, and the frequency and pattern of occurrence of the noise;
- ② the spectral content of the noise and the general character of the noise. The local topology and topography should also be taken into account along with the existing and, where appropriate, the planned character of the area.

2.1.10 More specific factors to consider when relevant:

- ② where applicable, the cumulative impacts of more than one source should be taken into account along with the extent to which the source of noise is intermittent and of limited duration;

- ② Consideration should also be given to whether adverse internal effects can be completely removed by closing windows and, in the case of new residential development, if the proposed mitigation relies on windows being kept closed most of the time. In both cases a suitable alternative means of ventilation is likely to be necessary. Further information on ventilation can be found in the Building Regulations; and
- ② If external amenity spaces are an intrinsic part of the overall design, the acoustic environment of those spaces should be considered so that they can be enjoyed as intended.

2.2 Institute of Environmental Management & Assessment 'Guideline for Environmental Noise Impact Assessment', October 2014

2.2.1 The guidelines address the key principles of noise impact assessment and are applicable to all development proposals where noise effects are likely to occur. The guidelines provide specific support on how noise impact assessment fits within the Environmental Impact Assessment (EIA) process. They cover:

- ② How to scope a Noise Assessment;
- ② Issues to be considered when defining the baseline noise environment;
- ② Prediction of changes in noise levels as a result of implementing development proposals; and
- ② Definition and evaluation of the significance of the effect of changes in noise levels (for use only where the assessment is undertaken within an EIA).

2.2.2 Although the guidance states that it is only applicable for use in an Environmental Impact Assessment (EIA), in the absence of any other relevant guidance for assessing changes in ambient noise levels, it is the most appropriate document for establishing significance of effect.

2.2.3 Table 2 categorises the change in noise level for a noise sensitive receptor such as a residential dwelling.

Table 2. Effect Descriptors for Residential Dwellings

Effect	Change in Ambient Noise Level (dB)
Very substantial	≥10.0
Substantial	5.0 – 9.9
Moderate	3.0 – 4.9
None / not significant	≤2.9

2.2.4 For the purposes of this Assessment, any change in ambient noise level which exceeds 2.9dB (referred to throughout this Assessment as the 'permitted change' in ambient noise level) will be mitigated.

2.3 Local Authority Guidance and Criteria – Manchester City Council's Environmental Health Department

2.3.1 Consultation was provided to Manchester City Council on 21st January 2025 which stated:

'We have been appointed by a client to undertake a Noise Impact Assessment in support of a proposed takeaway restaurant at 16 Oldham St in Manchester. It is understood that Manchester City Council have advised the following with regards to noise:

'There will be more intensive noise than just from a shop, plant is also proposed and we need to ensure that there will not be any adverse impact from additional noise sources to adjacent occupiers. An acoustic study identifying ambient noise levels during daytime, night time and weekends along with an indication of noise levels that you propose to achieve within the accommodation and details of the acoustic glazing and acoustically treated ventilation you propose to use. In terms of any proposed A3/A4/A5/live music venue or nightclub use the acoustic study should identify the acoustic treatment and measures that will limit the breakout of noise in accordance with a noise study of the premises and a scheme of acoustic treatment. The scheme proposed shall include measures such as acoustic lobbies at access and egress points of the premises, acoustic treatment of the building structure, sound limiters linked to sound amplification equipment, and specified maximum internal noise levels'

'The noise levels that would be generated from the proposed equipment and the acoustic attenuation measures proposed to reduce the equipment's noise output externally. Please note that any externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (LAeq) below the typical background (LA90) level at the nearest noise sensitive location.'

It should be noted that the proposed kitchen extraction unit is contained entirely within the proposed kitchen of the premises with no external extraction points. The only potential source of noise which may impact upon the closest residential dwellings will be the internal noise from the proposed kitchen extract system and an increased number of patrons within the building.

Proposed Site Work

Professional Consult will undertake the following noise surveys at the Site:

- *Ambient Sound Survey: An ambient sound survey will be completed for the adjacent residential dwellings, located at first-floor level adjacent to 16 Oldham Street, over the quietest operating periods of the proposal.*

All noise measurements will be carried out using sound level meters compliant with Type-1 specification, as set out in BS EN 61672-1:2013: 'Electroacoustics: Sound Level Meters. Specifications'.

Assessments

Professional Consult will complete the following assessments:

- *People Noise: An assessment will be completed which considers the level of noise breakout from the premises, with the kitchen extraction system in use and with customers using the premises, upon the closest residential dwellings. Where the change in ambient noise level exceed +2.9dB, appropriate noise mitigation will be implemented.*

Where exceedances of any criteria are identified Professional Consult will recommend appropriate and reasonable mitigation measures to ensure that adopted noise level criteria is not exceeded at the closest residential dwellings.

Please advise at your earliest convenience if you have any comments.

At the time of issuing this Assessment, no response had been received.

3 NOISE SURVEY

3.1 Background & Ambient Sound Survey

3.1.1 Professional Consult has completed noise measurements as follows:

 **Attended Noise Survey – Oldham Street:** It was not possible to install the sound level meter in a location considered to be representative of the sound climate at the closest residential dwellings and so a series of attended noise measurements have been completed between 09:00 – 23:00 on Saturday 18th January and 10:00 – 18:00 on Sunday 19th January 2025. Noise measurements were completed in free-field conditions adjacent to the Building and the measured noise levels were considered to be representative of the noise climate at the Regent Court Apartments.

3.1.2 Table 3 details the measured background and ambient sound levels.

Table 3. Summary of Measured Background & Ambient Sound Levels

Noise Measurement Position	Period	Measured Background Sound Level, $L_{A90,15mins}$ (dB)	
		Range	Typical (Mode Average)
Attended Noise Survey – Oldham St	Saturday 09:00 – 23:00	54 - 69	63
	Sunday 10:00 – 18:00	48 - 60	57

3.2 Noise Survey Equipment

3.2.1 The following equipment was used for the noise survey.

Table 4. Noise Measurement Equipment

Measurement Position	Equipment Description	Manufacturer & Type No	Serial No.	Calibration Due Date
Attended Noise Survey – Oldham St	Sound Level Meter	01dB Fusion	15440	23 November 2025
	Pre-amplifier	01dB PRE22	2214039	
	Microphone	GRAS 40CD	585117	
	Calibrator	01dB CAL-31	87280	27 June 2025

3.2.2 The sound level meter was field calibrated prior to and following the noise surveys and there was no drift beyond the allowable limit of 1dB.

3.2.3 Table 5 indicates a summary of the measured weather conditions.

Table 5. Range of Measured Wind Speeds

Period	Range of Measured Wind Speeds (m/s)	Rainfall Recorded?
All periods	0 – 0.4	No

4 NOISE IMPACT ASSESSMENT

4.1 Assessment Information

- 4.1.1 This Assessment has used library measured noise level data for approximately 30 patrons inside a café, which is considered to be a worst-case situation for the proposed takeaway restaurant. The measured noise level was 61.8dB $L_{Aeq,30mins}$.
- 4.1.2 The supplied noise level data for the exhaust duct located at the bottom of the recirculation system is 30dB(A) at 1m.
- 4.1.3 The following noise sensitive residential dwellings have been identified and accounted for in this Assessment.

Table 6. Identified Receptors

Receptor	Identifier	Type	Noise Model Receiver Location
Regent Court Apartments	R1	Residential	Daytime: At façade, 5m above street level facing Oldham St

4.2 Calculation of Specific Noise Levels at Receptor

- 4.2.1 There will be no sound transmission from the Building through the north east or south west facades or through the floor into the commercial office space above and the rear of the building (fronting onto Spear St) benefits from a brick wall and a fire escape door. Nevertheless, the front of the Site is comprised of glass with an open door (measuring 1.3m wide x 2.2m high) component and the following sound reduction values have been used in this Assessment:

- Open door: 0dB R_w .

- 4.2.2 In order to accurately calculate noise levels at the Receptor from the Building, the calculation procedure detailed below has been adhered to:

- Calculation of the sound pressure level immediately outside the building components by using the following equation:

- $SPL_{outside} = SPL_{inside} - R - 6dB$

Where: 'R' is the Sound Reduction Index for the building component

- Calculation of the sound power level for each building component by using the following equation:

- $L_w = SPL + 10 \times \log S$

Where: 'S' is the surface area in square meters of the building component

- 4.2.3 Table 7 calculates the sound power level for the open door. In calculating this noise level, the combined noise level from 30 patrons internally and the noise level of the outlet from the extraction system have been used.

Table 7. Calculated Sound Power Levels for Building Components

Noise Source	Façade	Calculated Sound Power Level for Building Component, L_{WA} (dB)
Commercial Unit	Open Door	60.4
Note – a 15-minute time-averaging period has been used to inform the daytime assessment also which ensures a worst-case assessment.		

4.2.4 For the purposes of this Assessment, Professional Consult has used noise modelling software CadnaA to determine the impact of noise breakout from the building at the proposed residential dwellings. A noise model has been constructed in order to calculate façade noise levels and external noise levels in amenity areas.

4.2.5 The following inputs have been included in the model:

- ② Proposed Scheme Layout;
- ② Site elevations have been taken as existing using 1m contours;
- ② Existing buildings or features that provide shielding from the road have been included in the model;
- ② A reflection order of 2 has been used in all calculations;
- ② The receiver location has been taken as 5m above street level at Regent Court Apartments; and,
- ② Noise levels generated using ISO 9613-1 and ISO 9613-2 “Acoustics – Attenuation of sound during propagation outdoors” as incorporated into CadnaA software.

4.2.6 In order to assess noise levels a grid noise map was calculated in the noise model and the predicted noise level is shown in Table 8.

Table 8. Predicted Specific Noise Level

Receptor	Period	Calculated Specific Noise Level, $L_{Aeq,T}$ (dB)
R1	Daytime	35.9

4.2.7 Table 9 compares this predicted noise level with the lowest measured ambient ($L_{Aeq,t}$) noise level at the receptor.

Table 9. Calculation of Change in Ambient Noise Level at Receptor

Receptor	Period	Calculated Noise Level, $L_{Aeq,T}$ (dB)	Lowest Measured Noise Level, $L_{Aeq,15mins}$ (dB)	Combined Noise Level, $L_{Aeq,T}$ (dB)	Change +/- (dB)
R1	Daytime	35.9	54	54	0

4.2.8 Table 9 indicates that the level of ambient noise outside the closest receptor will not change and so there is no requirement to consider noise mitigation measures.

- 4.2.9 It should be noted that the combined noise level predicted at Receptor R1 is a combination internal mechanical
lant noise and also people noise, however noise from patrons has a far greater contribution than the lant noise
and so there is no requirement to complete a BS4142 assessment.

5 MITIGATION

- 5.1.1 The previous section has indicated that the lowest measured ambient sound level, when the Building can operate, will not increase as a result of operation of the Development.

6 CONCLUSION

6.1.1 Professional Consult Limited was instructed by Mr Ali Raza Ahmad to prepare a Noise Impact Assessment in support of a proposed takeaway kitchen at 16 Oldham St in Manchester M1 1JQ.

6.1.2 Manchester City Council have commented on the proposed scheme with regards to noise as follows:

'There will be more intensive noise than just from a shop, plant is also proposed and we need to ensure that there will not be any adverse impact from additional noise sources to adjacent occupiers.'

An acoustic study identifying ambient noise levels during daytime, night time and weekends along with an indication of noise levels that you propose to achieve within the accommodation and details of the acoustic glazing and acoustically treated ventilation you propose to use. In terms of any proposed A3/A4/A5/live music venue or nightclub use the acoustic study should identify the acoustic treatment and measures that will limit the breakout of noise in accordance with a noise study of the premises and a scheme of acoustic treatment. The scheme proposed shall include measures such as acoustic lobbies at access and egress points of the premises, acoustic treatment of the building structure, sound limiters linked to sound amplification equipment and specified maximum internal noise levels.'

6.1.3 Accordingly, this Assessment has been completed with due regard to the National Planning Policy Framework and its associated National Planning Policy Guidance in addition to appropriate British Standards and guidance documents relevant to the assessment of noise impacts.

6.1.4 The Development will comprise of a kitchen extract unit which will be contained entirely within the proposed kitchen of the premises with no external extraction points. The only potential source of noise which may impact upon the closest residential dwellings will be the internal noise from the proposed kitchen extract system and an increased number of patrons within the building.

6.1.5 The Development will operate over the following time periods:

- Monday – Friday: 08:00 – 20:00;
- Saturday: 09:00 – 23:00; and
- Sunday: 10:00 – 18:00.

6.1.6 The Building is currently in use as a convenience shop located on Oldham St.

6.1.7 The closest residential receptors to the Building are understood to be the apartment dwellings known as Regents Court Apartments, located at first-floor approximately 15m south west of the Site.

6.1.8 The soundscape at the closest residential dwellings is typical of a city centre location with significant noise from vehicles using Oldham St and noise from people.

6.1.9 This Assessment has shown that, with regards to the combination of people talking inside the building and use of the kitchen extract system, the change in ambient noise level at the closest residential receptor does not exceed the existing adopted noise criteria level and as such there are no requirements for noise mitigation measures.

6.1.10 In summary, the predicted level of noise from the Development is sufficiently low enough at the closest residential dwellings to accord with the 'No Observed Adverse Effect Level' as detailed in the PPG and as such noise should not be deemed to be a determining factor in the granting of planning permission for this Site.

APPENDIX 1: LIMITATIONS

This report and its findings should be considered in relation to the terms of reference and objectives agreed between Professional Consult Limited and the Client.

The executive summary, conclusions and recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon without considering the context of the report in full.

Professional Consult cannot be held responsible for any use of the report or its contents for any purpose other than that for which it was prepared. The copyright in this report and other plans and documents prepared by Professional Consult is owned by them and no such plans or documents may be reproduced, published or adapted without written consent. Complete copies of this may, however, be made and distributed by the client as is expected in dealing with matters related to its commission. Should the client pass copies of the report to other parties for information, the whole report should be copied, but no professional liability or warranties shall be extended to other parties by Professional Consult in this connection without their explicit written agreement there to by Professional Consult.

APPENDIX 2: GLOSSARY OF ACOUSTIC TERMINOLOGY

Noise is defined as unwanted sound. Human ears are able to respond to sound in the frequency range 20 Hz (deep bass) to 20,000 Hz (high treble) and over the audible range of 0 dB (the threshold of perception) to 140 dB (the threshold of pain). The ear does not respond equally to different frequencies of the same magnitude, but is more responsive to mid-frequencies than to lower or higher frequencies. To quantify noise in a manner that approximates the response of the human ear, a weighting mechanism is used. This reduces the importance of lower and higher frequencies, in a similar manner to the human ear.

Furthermore, the perception of noise may be determined by a number of other factors, which may not necessarily be acoustic. In general, the impact of noise depends upon its level, the margin by which it exceeds the background level, its character and its variation over a given period of time. In some cases, the time of day and other acoustic features such as tonality or impulsiveness may be important, as may the disposition of the affected individual. Any assessment of noise should give due consideration to all of these factors when assessing the significance of a noise source.

The most widely used weighting mechanism that best corresponds to the response of the human ear is the 'A'-weighting scale. This is widely used for environmental noise measurement, and the levels are denoted as dB(A) or L_{Aeq} , L_{A90} etc., according to the parameter being measured.

The decibel scale is logarithmic rather than linear, and hence a 3 dB increase in sound level represents a doubling of the sound energy present. Judgement of sound is subjective, but as a general guide a 10 dB(A) increase can be taken to represent a doubling of loudness, whilst an increase in the order of 3 dB(A) is generally regarded as the minimum difference needed to perceive a change under normal listening conditions.

An indication of the range of sound levels commonly found in the environment is given in the following table.

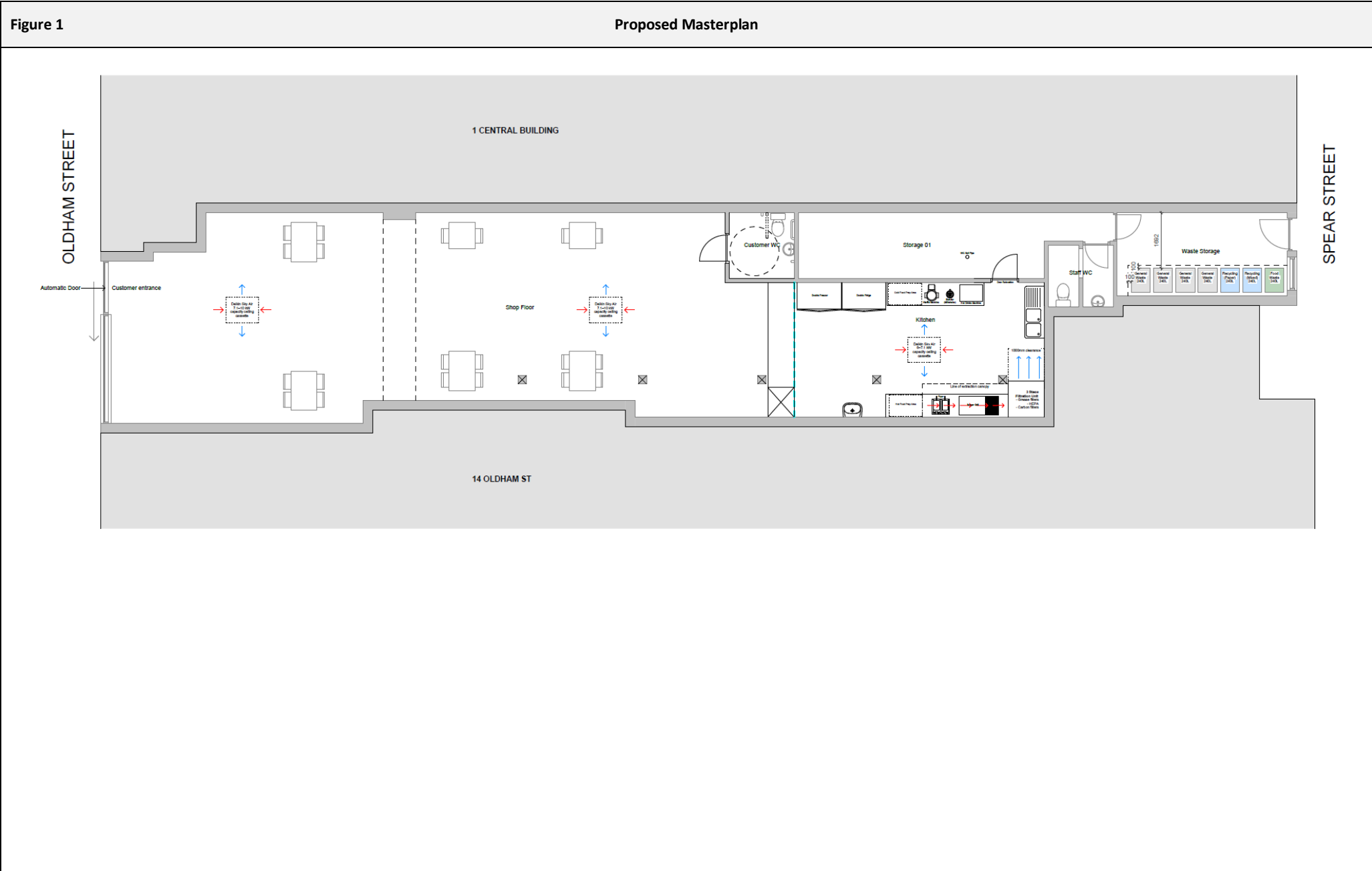
Table 1: Typical Sound Pressure Levels

Sound Pressure Level (dB)	Location/Example
0	Threshold of hearing
20 - 30	Quiet bedroom at night
30 - 40	Living room during the day
40 - 50	Typical office
50 - 60	Inside a car
60 - 70	Typical high street
70 - 90	Inside factory
100 - 110	Burglar alarm at 1m away
110 - 130	Jet aircraft on take off
140	Threshold of pain

Table 2: Terminology

Descriptor	Explanation
dB (decibel)	The scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and a reference pressure (2x10 ⁻⁵ Pa).
dB(A)	A-weighted decibel. This is a measure of the overall level of sound across the audible spectrum with a frequency weighting (i.e. 'A' weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.
L _{Aeq, T}	L _{Aeq} is defined as the notional steady sound level which, over a stated period of time (T), would contain the same amount of acoustical energy as the A - weighted fluctuating sound measured over that period.
L _{Amax}	L _{Amax} is the maximum A - weighted sound pressure level recorded over the period stated. L _{Amax} is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the overall Leq noise level but will still affect the noise environment. Unless described otherwise, it is measured using the 'fast' sound level meter response.
L ₁₀ & L ₉₀	If a non-steady noise is to be described it is necessary to know both its level and the degree of fluctuation. The Ln indices are used for this purpose, and the term refers to the level exceeded for n% of the time. Hence L ₁₀ is the level exceeded for 10% of the time and as such can be regarded as the 'average maximum level'. Similarly, L ₉₀ is the 'average minimum level' and is often used to describe the background noise. It is common practice to use the L ₁₀ index to describe traffic noise.
Free-field Level	2A sound field determined at a point away from reflective surfaces other than the ground with no significant contributions due to sound from other reflective surfaces. Generally as measured outside and away from buildings.
Fast	A time weighting used in the root mean square section of a sound level meter with a 125millisecond time constant.
Slow	A time weighting used in the root mean square section of a sound level meter with a 1000millisecond time constant.

APPENDIX 3: PROPOSED MASTERPLAN



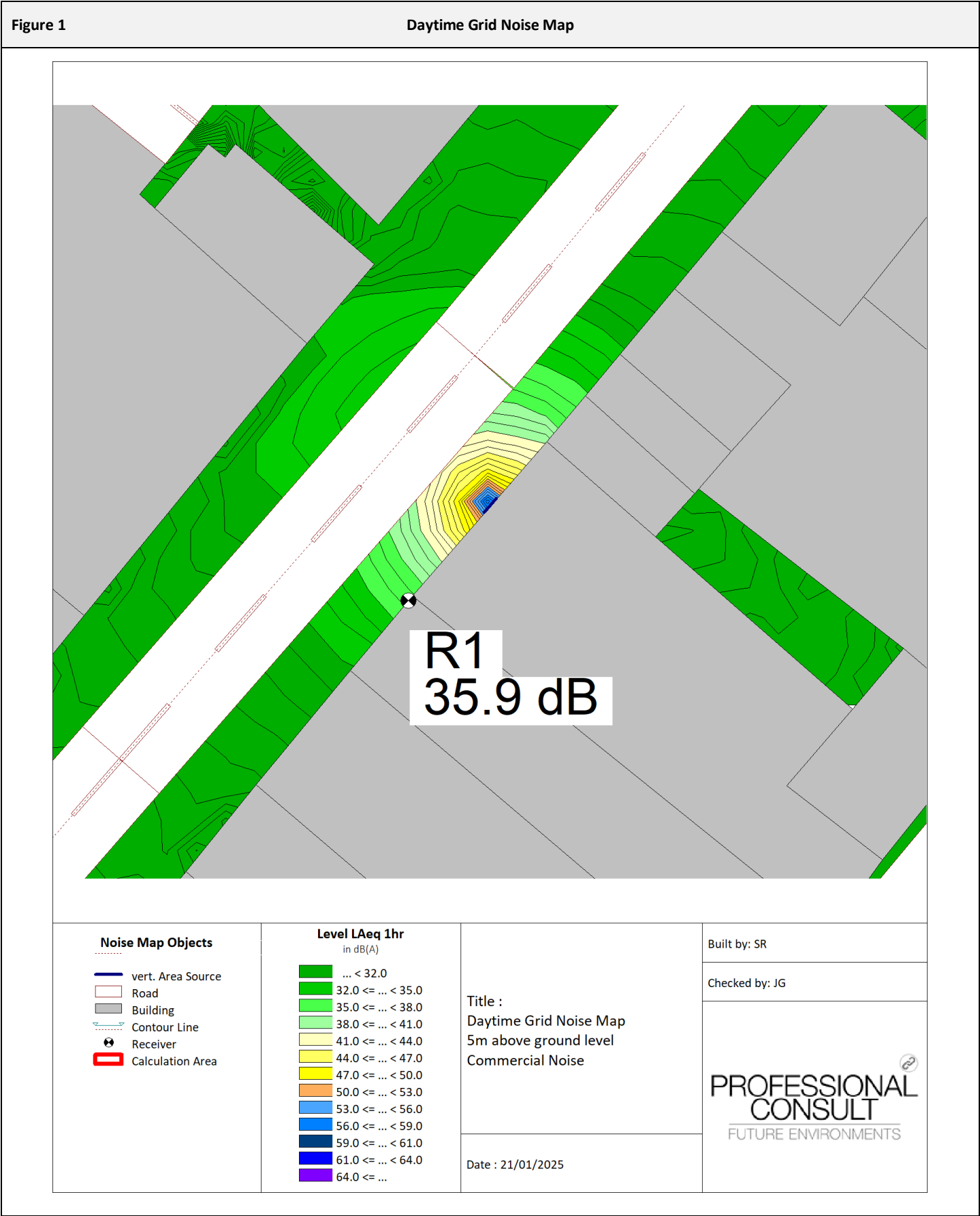
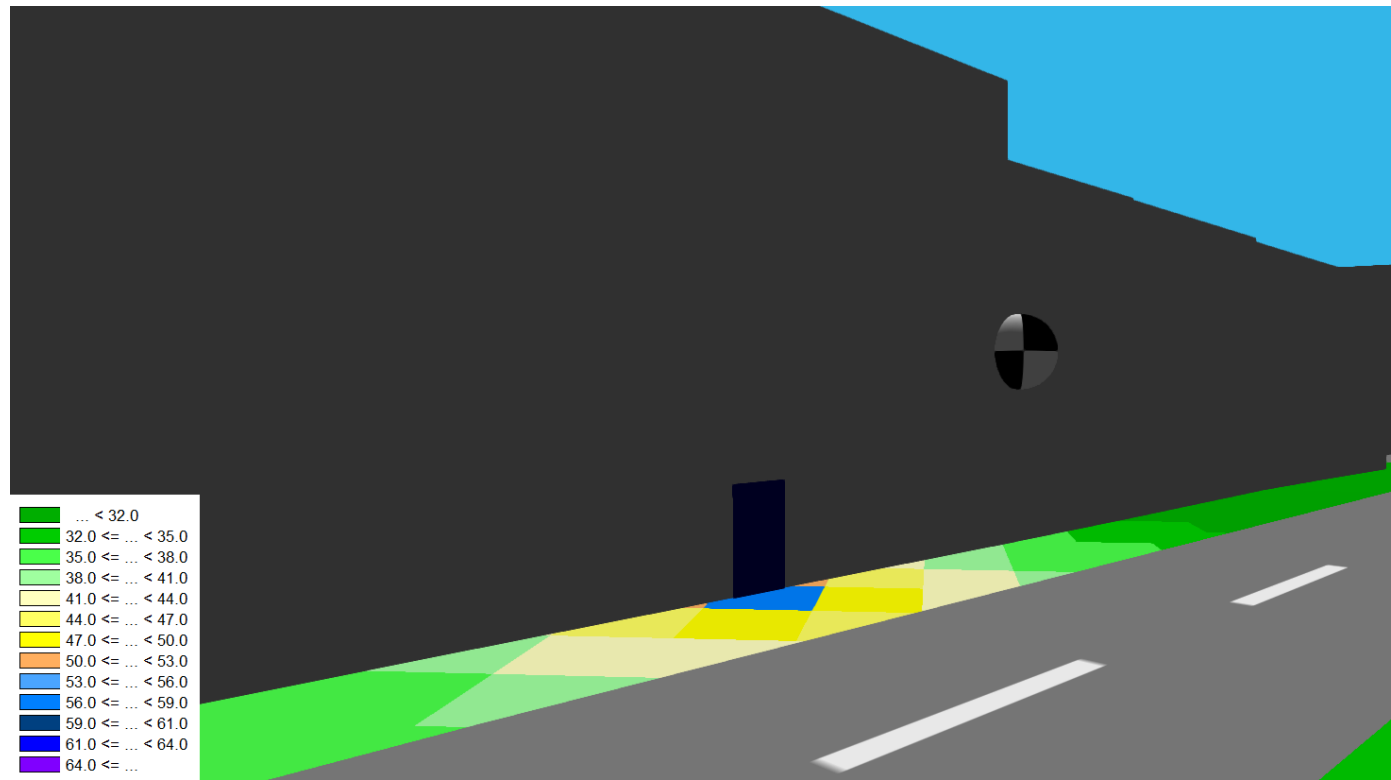


Figure 2

3D View – Daytime Grid Noise Map



APPENDIX 5: MEASURED BACKGROUND NOISE LEVELS

Period start	Time	Measured Sound Pressure Level, dB	
		LAeq,15mins	LA90, 15mins
19/01/2025	09:00	54.3	49.3
19/01/2025	09:15	59.4	52.2
19/01/2025	09:30	58.9	51.2
19/01/2025	09:45	58.1	52.1
19/01/2025	10:00	58.7	51.9
19/01/2025	10:15	60.3	55.7
19/01/2025	10:30	60.6	55.3
19/01/2025	10:45	62.4	55.9
19/01/2025	11:00	62.9	56.5
19/01/2025	11:15	61.2	58.1
19/01/2025	11:30	65.9	58.9
19/01/2025	11:45	62.5	57.9
19/01/2025	12:00	64.6	58.7
19/01/2025	12:15	63.5	56.4
19/01/2025	12:30	63	56.9
19/01/2025	12:45	60.4	56.4
19/01/2025	13:00	62	57.3
19/01/2025	13:15	61.1	57.3
19/01/2025	13:30	61.8	56.8
19/01/2025	13:45	60.9	55.3
19/01/2025	14:00	63.4	56.8
19/01/2025	14:15	65.9	58.9
19/01/2025	14:30	62.5	57.9
19/01/2025	14:45	64.6	58.7
19/01/2025	15:00	63.5	56.4
19/01/2025	15:15	63	56.9
19/01/2025	15:30	60.4	56.4
19/01/2025	15:45	62	57.3
19/01/2025	16:00	61.1	57.3
19/01/2025	16:15	61.8	56.8
19/01/2025	16:30	60.9	55.3
19/01/2025	16:45	63.4	56.8
19/01/2025	17:00	63	56.9
19/01/2025	17:15	60.4	56.4
19/01/2025	17:30	62	57.3
19/01/2025	17:45	61.1	57.3
19/01/2025	18:00	61.8	56.8
19/01/2025	18:15	60.9	55.3
19/01/2025	18:30	63.4	56.8
19/01/2025	18:45	63.5	56.4
19/01/2025	19:00	62.5	57.9
19/01/2025	19:15	64.6	58.7
19/01/2025	19:30	63.5	56.4

Reference: 24.309.1.R1
Date: 22 January 2025
Project: Proposed Takeaway Kitchen

19/01/2025	19:45	63	56.9
19/01/2025	20:00	60.4	56.4
19/01/2025	20:15	62	57.3
19/01/2025	20:30	61.1	57.3
19/01/2025	20:45	61.8	56.8
19/01/2025	21:00	60.9	55.3
19/01/2025	21:15	63.4	56.8
19/01/2025	21:30	60.8	56.1
19/01/2025	21:45	62.7	57.7
19/01/2025	22:00	62.5	58.2
19/01/2025	22:15	64.3	57.6
19/01/2025	22:30	64.7	58.6
19/01/2025	22:45	65.5	59.7
20/01/2025	10:00	56.5	48.3
20/01/2025	10:15	58	49.1
20/01/2025	10:30	64.6	57.7
20/01/2025	10:45	56.3	50.3
20/01/2025	11:00	58.8	51.7
20/01/2025	11:15	57.3	50.7
20/01/2025	11:30	57.4	51.8
20/01/2025	11:45	58.6	52.8
20/01/2025	12:00	57.6	52.1
20/01/2025	12:15	58	52.6
20/01/2025	12:30	58	53.1
20/01/2025	12:45	57.8	52.9
20/01/2025	13:00	56.8	52.2
20/01/2025	13:15	58.2	52.3
20/01/2025	13:30	58	52.8
20/01/2025	13:45	57	52.3
20/01/2025	14:00	58.6	53.3
20/01/2025	14:15	57.8	53.2
20/01/2025	14:30	58.2	53
20/01/2025	14:45	59.2	53.3
20/01/2025	15:00	58.8	53
20/01/2025	15:15	59.6	53.4
20/01/2025	15:30	58.5	52.9
20/01/2025	15:45	61	53.3
20/01/2025	16:00	58.6	53.1
20/01/2025	16:15	59	53.1
20/01/2025	16:30	62.3	53.2
20/01/2025	16:45	69.4	60.2
20/01/2025	17:00	62.3	54.1
20/01/2025	17:15	59.4	53.9
20/01/2025	17:30	59.3	53.3
20/01/2025	17:45	60.7	54.1

Reference: 24.309.1.R1
Date: 22 January 2025
Project: Proposed Takeaway Kitchen

PROFESSIONAL
CONSULT 