NoiseAir
ACOUSTICS & AIR QUALITY

Tel: 0116 272 5908
Email: info@noiseair.co.uk
Web: www.noiseair.co.uk

LAU YUK LIMITED

KITCHEN ODOUR ASSESSMENT

78-80 TIB STREET, MANCHESTER M4 1LG

Client: Lau Yuk Limited

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Units 8-11, Bridgewater House, North Road, Ellesmere Port, CH65 1AF
The Counting House, High Street, Lutterworth, Leicestershire, LE17 4AY

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Document Reference	Date	Prepared by	Checked by	Authorised by
P8809-R2-V1	25/09/2025	Maria Alarcon MSc, BSc, AMIAQM, AMIEnvSc	Patrick Nolan BSc (Hons) MIAQM, AMIEnvSc	Patrick Nolan BSc (Hons) MIAQM, AMIEnvSc
				
P8809-R2-V2	03/12/2025	Maria Alarcon MSc, BSc, AMIAQM, AMIEnvSc	Patrick Nolan BSc (Hons) MIAQM, AMIEnvSc	Patrick Nolan BSc (Hons) MIAQM, AMIEnvSc
				

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1 INTRODUCTION

1.1 Introduction to Assessment

1.1.1 NoiseAir Limited was commissioned to undertake a Kitchen Odour Assessment (KOA) in support of a mixed-use development comprising of a restaurant on the ground floor, and retail on the ground, first and second floors at 78-80 Tib Street, Manchester M4 1LG, including the installation of a new kitchen extraction system.

1.1.2 The Proposed Development has the potential to cause odour impacts because of emissions from cooking processes occurring within the new kitchen. As such, a KOA was undertaken in order to evaluate potential effects as a result of the proposals and identify the necessary mitigation measures to prevent adverse impacts.

1.1.3 General limitations of this report are outlined in **Appendix A**.

1.2 Site Location and Context

1.2.1 The Proposed Development is located within the jurisdiction of Manchester City Council, at 78-80 Tib Street, Manchester M4 1LG, at approximate National Grid Reference 384535, 398595.

1.2.2 **Figure 1** shows the location of the Site.

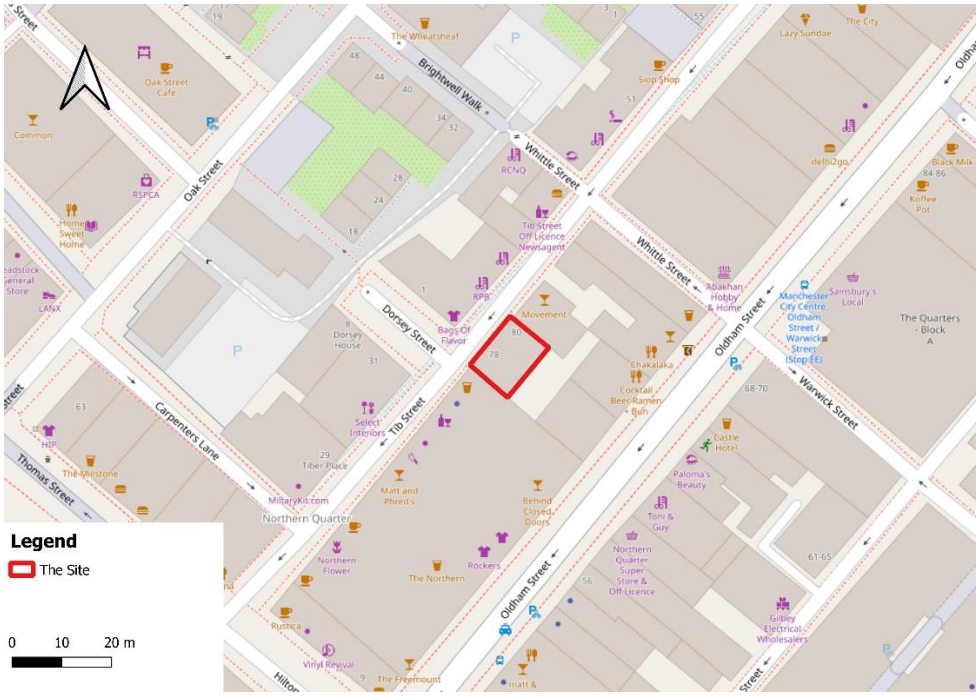


Figure 1 Site Location

1.2.3 The Site is situated in a well-developed urban area to the northeast of Manchester city centre. As such, sensitive receptors are present within 20 metres of both the Site and the kitchen discharge point.

1.2.4 The proposed restaurant will operate as a casual dining venue offering Asian cuisine. Cooking methods will include the use of a hob, oven, and steamer. The expected capacity is approximately 32 seats, serving around 64 to 96 covers per day.

1.2.5 The kitchen is proposed at ground floor level on the eastern side of the building. The extract flue for kitchen fumes is proposed to discharge at least one metre above the eaves of the roof, at a high exit velocity, to ensure good dispersion.

1.2.6 At this stage, no odour mitigation measures are proposed. Appropriate odour abatement measures specific to this restaurant will be recommended within this report.

2 ODOUR BACKGROUND

2.1 Odour Definition

2.1.1 The Institute of Air Quality Management (IAQM) guidance[1] defines odour as:

> *"[…] the human olfactory response (perception followed by psychological appraisal) to one, or more often a complex mixture of, chemical species in the air."*

2.1.2 The stated definition is considered to be relevant in the context of this assessment.

2.2 Odour Impacts

2.2.1 The magnitude of odour impacts depends on a number of factors and the potential for complaints varies due to the subjective nature of odour perception. The **FIDOL** acronym is a useful reminder of the factors that will determine the degree of odour pollution. These are described by the IAQM as follows:

- **F**requency - how often an individual is exposed to odour;
- **I**ntensity - the individual's perception of the strength of odour;
- **D**uration - The overall duration that individuals are exposed to an odour over time;
- **O**dour unpleasantness - Odour unpleasantness describes the character of an odour as it relates to the 'hedonic tone' (which may be pleasant, neutral or unpleasant) at a given odour concentration/intensity. This can be measured in the laboratory as the hedonic tone, and when measured by the standard method and expressed on a standard nine-point scale it is termed the hedonic score; and,
- **L**ocation - the type of land use and nature of human activities in the vicinity of an odour source. Tolerance and expectation of the receptor. The 'Location' factor can be considered to encompass the receptor characteristics, receptor sensitivity, and socio-economic factors.

2.2.2 It is important to note that even infrequent emissions may cause loss of amenity if odours are perceived to be particularly intense or offensive.

2.2.3 The **FIDOL** factors can be further considered to provide the following issues in regard to the potential for an odour emission to cause a nuisance:

- The rate of emission of the compound(s);
- The duration and frequency of emissions;

[1] Guidance on the Assessment of Odour for Planning v1.1, IAQM, 2018.

- The time of the day that this emission occurs;
- The prevailing meteorology;
- The sensitivity of receptors to the emission i.e. whether the odorous compound is more likely to cause nuisance, such as the sick or elderly, who may be more sensitive;
- The odour detection capacity of individuals to the various compound(s); and,
- The individual perception of the odour (i.e. whether the odour is regarded as unpleasant). This is greatly subjective and may vary significantly from individual to individual. For example, some individuals may consider some odours as pleasant, such as petrol, paint and creosote.

2.3 Legislative Control

2.3.1 The main requirement with respect to odour control from premises not controlled under the Environmental Permitting (England and Wales) Regulations (2016) and subsequent amendments are provided in Section 79 of Part III of the Environmental Protection Act (1990). The Act defines nuisance as:

> *"Any dust, steam, smell or other effluvia arising on industrial, trade or business premises and being prejudicial to health or a nuisance."*

2.3.2 Enforcement of the Act, in regard to nuisance, is currently under the jurisdiction of the local Environmental Health Department, whose officers are deemed to provide an independent evaluation of nuisance. If the Local Authority is satisfied that a statutory nuisance exists, or is likely to occur or happen again, it must serve an Abatement Notice under Part III of the Environmental Protection Act (1990). The only defence is to show that the process to which the nuisance has been attributed and its operation are being controlled according to best practicable means.

2.3.3 The legislative controls described above were considered as necessary throughout the undertaking of the assessment.

2.4 National Planning Policy

2.4.1 The revised National Planning Policy Framework[2] was published in December 2024 (amended on 7 February 2025) and sets out the Government's Planning policies for England and how these are expected to be applied.

[2] NPPF, Ministry of Housing, Communities and Local Government, 2024.

2.4.2 The purpose of the planning system is to contribute to the achievement of sustainable development. In order to ensure this, the NPPF recognises three overarching objectives included the following of relevance to odour:

> *" c) An environmental objective - to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy."*

2.4.3 Chapter 12 of the NPPF details objectives in relation to achieving well-designed place. It states that:

> *"Planning policies and decisions should ensure that developments:[…]*
>
> *f) create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesions and resilience […]"*

2.4.4 The implications of the NPPF have been considered throughout this assessment.

3 METHODOLOGY

3.1 Introduction

3.1.1 The Proposed Development has the potential to cause odour impacts as a result of emissions from cooking processes. An assessment has therefore been undertaken in accordance with the guidance document 'Control of Odour and Noise from Commercial Kitchen Exhaust Systems' prepared by EMAQ+ for Department for Environment, Food and Rural Affairs (DEFRA)[3]. This document provides an update to the 2005 guidance[4] produced by DEFRA.

3.2 Assessment Methodology

3.2.1 The EMAQ+ and DEFRA methodology provides an approach for identifying the risk of odour impact associated with food preparation premises and defining an appropriate level of mitigation to control potential effects to an acceptable level.

3.2.2 The first stage in the process is to score the premises in accordance with the criteria outlined in **Table 1**.

Table 1: Risk Scoring Criteria

Criteria	Score	Score	Details
Dispersion	Very poor	20	Low level discharge, discharge into courtyard or restriction on stack.
	Poor	15	Not low level but below eaves, or discharge at below 10m/s.
	Moderate	10	Discharging 1m above eaves at 10 - 15m/s.
	Good	5	Discharging 1m above ridge at 15m/s.
Proximity of receptors	Close	10	Closest sensitive receptor less than 20m from kitchen discharge.
	Medium	5	Closest sensitive receptor between 20 and 100m from kitchen discharge.
	Far	1	Closest sensitive receptor more than 100m from kitchen discharge.
Size of kitchen	Large	5	More than 100 covers or large sized takeaway.
	Medium	3	Between 30 and 100 covers or medium sized takeaway.
	Small	1	Less than 30 covers or small take away.
Cooking type (odour and grease loading)	Very High	10	Pub (high level of fried food), fried chicken, burgers or fish & chips, Turkish, Middle Eastern or any premises cooking with solid fuel.

[3] Control of Odour and Noise from Commercial Kitchen Exhaust Systems, EMAQ+, 2018.
[4] Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems, DEFRA, 2005.

Table 1: Risk Scoring Criteria			
Criteria	**Score**	**Score**	**Details**
	High	7	Vietnamese, Thai, Indian, Japanese, Chinese or steakhouse.
	Medium	4	Cantonese, Italian, French, Pizza (gas fired).
	Low	1	Most pubs (no fried food, mainly reheating and sandwiches etc) or Tea rooms.

3.2.3 The score obtained using the values shown in **Table 1** is subsequently used to define the associated risk and odour control requirement. The relevant criteria are summarised in **Table 2**.

Table 2: Odour Control Requirement		
Significance Score	**Impact Risk**	**Odour Control Requirement**
Less than 20	Low to Medium	Low level odour control
20 to 35	High	High level odour control
More than 35	Very high	Very high level odour control

3.2.4 A suitable odour control system can then be identified from the techniques summarised in the EMAQ+ and DEFRA guidance.

4 ASSESSMENT

4.1 Odour Risk

4.1.1 The odour risk associated with the Proposed Development was rated in accordance with the EMAQ+ and DEFRA methodology.

Dispersion;

4.1.2 The proposed extract flue will discharge one metre above the eaves of the roof at high velocity, as confirmed by the ventilation specialist. Therefore, based on the information in **Table 1**, the risk rating for dispersion would be described as **Moderate**.

Proximity of receptors;

4.1.3 The Site is situated in a well-developed urban area, with sensitive receptors located within 20 metres of the kitchen discharge. Therefore, based on the information in **Table 1**, the risk rating for proximity of receptors would be described as **Close**.

Size of kitchen;

4.1.4 The restaurant is expected to serve approximately 64 to 96 covers per day. Based on the information in **Table 1**, the risk rating for the size of the kitchen would be described as **Medium**.

Cooking type (odour-grease loading);

4.1.5 The restaurant will serve Asian cuisine, with the kitchen equipped with a hob, oven, and steamer. Therefore, based on the information in **Table 1**, the risk rating for the cooking type would be described as **High**.

4.1.6 The results are summarised in **Table 3**.

Table 3: Odour Risk

Criteria	Score	Score	Notes
Dispersion	Moderate	10	Discharging 1m above eaves at 10 - 15m/s.
Proximity of receptors	Close	10	Closest sensitive receptor less than 20m from kitchen discharge.
Size of kitchen	Medium	3	Between 30 and 100 covers or medium sized takeaway.
Cooking type (odour and grease loading)	High	7	Vietnamese, Thai, Indian, Japanese, Chinese or steakhouse.

4.1.7 As shown in **Table 3**, the odour risk from the kitchen was scored as **30**. The risk was therefore classified as **High**, in accordance with the EMAQ+ and DEFRA criteria.

4.2 Odour Control

4.2.1 Based on the assessment results, the proposed kitchen requires mitigation suitable for a **High** level of odour control.

4.2.2 A **High** level of odour control is described as either being fine filtration or (electrostatic precipitator) ESP followed by carbon filtration (carbon filters rated with 0.2 – 0.4 second residence time) or fine filtration or ESP followed by UV ozone system to achieve the same level of control as carbon filters previously described.

4.2.3 At this stage, no odour control mitigation measures have been proposed. In line with the guidance, odour control measures such as those proposed above, or alternative measures providing an equivalent level of odour control, should be employed to reduce any odour impact to an acceptable level at the nearest sensitive receptor locations.

4.2.4 It is recommended to replace carbon filters (if fitted) regularly and to routinely maintain and clean the extraction system in order to minimise the potential for any odour related complaints. A detailed maintenance and management regime should be prepared by a ventilation engineer to ensure the system and its components are adequately maintained and continue to perform effectively.

4.2.5 Based on the findings of the assessment, it is considered that potential odour impacts at nearby sensitive receptors would be reduced to an acceptable level, subject to the inclusion of the recommended mitigation for a **High** level of odour control within the guidance, if deemed appropriate.

5 CONCLUSION

5.1.1 NoiseAir Limited was commissioned to undertake a KOA in support of a Proposed Development at 78-80 Tib Street, Manchester M4 1LG.

5.1.2 The Proposed Development has the potential to cause odour impacts as a result of cooking processes within the new kitchen. As such, a KOA has been undertaken in order to consider potential impacts associated with the scheme and identify suitable odour control measures.

5.1.3 An assessment using the EMAQ+ and DEFRA methodology was undertaken in order to identify the odour risk associated with the extract system. This was based on a number of site-specific inputs.

5.1.4 The results of the conservative assessment, based on assumptions, indicated the potential odour risk was classified as **High**. This prediction outlines that the Proposed Development could result in significant odour impact at nearby sensitive receptors or affect local amenity levels in the absence of mitigation. It also suggests that appropriate mitigation options are required to reduce potential effects to an acceptable level. It should be noted, however, that this may overestimate the potential impacts.

5.1.5 The specified and recommended odour abatement strategy for the Site, described in paragraph 4.2.2, is considered appropriate for the nature of the Proposed Development and is consistent with the requirements of the EMAQ+ and DEFRA guidance for kitchens with a **High** risk of impact. Therefore, with this mitigation in place, or mitigation that can provide a similar level of odour control, potential odour impacts at nearby sensitive receptors would be reduced to an acceptable level.

5.1.6 Based on the findings of the assessment, it is considered that odour emissions should not represent a constraint to planning consent for the Proposed Development, as long as **High** level odour control in line with measures outlined in the EMAQ+ and DEFRA guidance are employed at the Site.

APPENDIX A – REPORT LIMITATIONS

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NOISEAIR LIMITED, THE COUNTING HOUSE, HIGH STREET,
LUTTERWORTH. LE17 4AY

TEL. 0116 272 5908

EMAIL. INFO@NOISEAIR.CO.UK

WWW.NOISEAIR.CO.UK

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