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GRANO SANTO LIMITED

KITCHEN ODOUR ASSESSMENT

122 WATER STREET, MANCHESTER
M3 4JW

Client: Grano Santo Limited

Report Ref: P9215-R1-V1

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CONTENTS

1 INTRODUCTION 4

2 ODOUR BACKGROUND 7

3 METHODOLOGY 10

4 ASSESSMENT 12

5 CONCLUSION 14

FIGURES

FIGURE 1 SITE LOCATION 5

APPENDICES

APPENDIX A – REPORT LIMITATIONS

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 Proposed Development at 122 Water Street, Manchester M3 4JW, including the installation of a new kitchen extraction system.

1.1.2 A planning application is to be submitted for the proposed change of use of the existing commercial unit from Class B8 to Class E. The proposal seeks to use the premises as a small-scale artisan bakery and café serving both commercial and retail customers, including the installation of a new kitchen extraction system at the Site.

1.1.3 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.

1.1.4 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 122 Water Street, Manchester M3 4JW, at approximate National Grid Reference 382923, 397802.

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

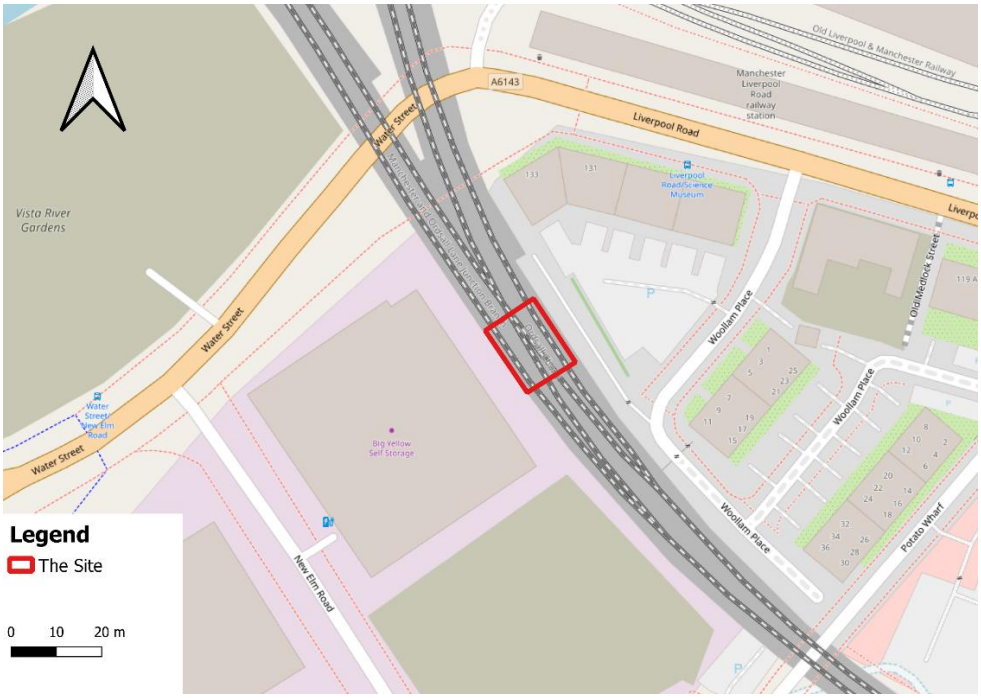


Figure 1 Site Location

1.2.3 The Site is located in a well-developed urban area within Manchester city centre. It is positioned beneath a rail archway, with residential buildings to the east and a large self-storage building to the west. As the kitchen discharge point is proposed to be on the west side of the arch, the closest sensitive receptors will be more than 20 metres from the point of fume discharge.

1.2.4 The Proposed Development comprises an artisan bakery with a small retail counter and a modest seating area for cafe use. The café will focus on pastry goods, bread baked on site, coffee and a limited range of sandwiches. No onsite frying is proposed. A small area with bench seating for around eight to twelve customers will allow brief consumption on the premises, although the primary activity will be takeaway sales. In addition, the bakery will also supply local restaurants, cafes and wholefood stores with bread and sweet baked goods.

1.2.5 Production activities are proposed from 08:00 to 17:00 on Monday, and from 03:00 to 07:30 Tuesday to Friday. Retail hours will be 08:00 to 15:00 Tuesday to Saturday. The bakery and cafe will be closed on Sundays and Mondays.

1.2.6 To comply with environmental health requirements relating to moisture, emissions and baking odours, a suitable extraction system will be installed. Following engagement with a ventilation designer, the proposals will adopt an arrangement similar to the system in use at the neighbouring unit at 121 Water Steet.

1.2.7 The extract will discharge through the brick infill at the rear of the building, to the west of the arch, using a vertical outlet. The flue will run at the maximum achievable height within the constraints of the arch structure, expected to be between approximately 2.5 and 6 metres above ground level. The exit velocity is anticipated to be between 10 and 15 m/s, subject to final engineering advice.

1.2.8 The bread and pastry ovens are proposed to be located towards the entrance of the unit along the wall parallel with Water Street, at the northern end of the building. Canopies will be mounted above the ovens, with the flue running along the wall and ceiling towards the rear discharge point.

1.2.9 At this stage, no odour mitigation measures been proposed. Appropriate odour abatement measures specific to this development 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 While the exact height at which fumes will be discharged is yet to be confirmed, the minimum height will be 2.5 metres above ground level, which is not considered a low-level discharge. Additionally, the proposed exit velocity is 10 to 15 m/s. 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 between 20 and 100 metres from the kitchen discharge. Therefore, based on the information in **Table 1**, the risk rating for proximity of receptors would be described as **Medium**.

Size of kitchen;

4.1.4 The proposals include a small artisan bakery with bench seating for around eight to twelve customers. Based on the information in **Table 1**, the risk rating for the size of the kitchen would be described as **Small**.

Cooking type (odour-grease loading);

4.1.5 The offer will focus on pastry goods, bread baked on site, coffee and a limited range of sandwiches. No onsite frying is proposed. Therefore, based on the information in **Table 1**, the risk rating for the cooking type would be described as **Low**.

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	Medium	5	Closest sensitive receptor between 20 and 100m from kitchen discharge.
Size of kitchen	Small	1	Less than 30 covers or small take away.

Table 3: Odour Risk			
Criteria	**Score**	**Score**	**Notes**
Cooking type (odour and grease loading)	Low	1	Most pubs (no fried food, mainly reheating and sandwiches etc) or Tea rooms.

4.1.7 As shown in **Table 3**, the odour risk from the kitchen was scored as **17**. The risk was therefore classified as **Low to Medium**, 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 **Low** level of odour control.

4.2.2 A **Low** level of odour control is described as either being fine filtration or electrostatic precipitator (ESP) followed by carbon filtration (carbon filters rated with a 0.1 second residence time) or fine filtration followed by counteractant/neutralising system to achieve the same level of control as carbon filters previously described.

4.2.3 At this stage, no odour control measures 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 the 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.

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 **Low** 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 122 Water Street, Manchester M3 4JW.

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 assessment indicated the potential odour risk was classified as **Low to Medium**. 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.

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 **Low to Medium** 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 **Low** level odour control, in line with the measures outlined in the EMAQ+ and DEFRA guidance, is employed at the Site.

APPENDIX A – REPORT LIMITATIONS

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