

Tap House Odour Risk Assessment

Report Title:	Odour Impact Assessment: Pizza Ovens
Site Address:	The Tap House Manchester, 17 Symphony Park, Manchester, M1 7FS
Project Number:	5085

Assessment Summary

This assessment is written in conjunction with the pizza ovens installed within the food prep area at The Tap House Manchester. This odour assessment has been completed to assess the impact from odour generated during the cooking process from the new pizza ovens which have been installed, which extract through a louvre in the façade.

The local planning authority has requested this assessment is completed in regards to concerns of odour emissions from the use of the pizza oven extraction fans unit on neighbouring sensitive residential properties.

With respect to odour, it has been identified that providing that the recommendations are taken into account, there should not be a loss of amenity at the existing residential receptors in the vicinity of the extraction flue and as long as a system similar to the one recommended in the OMP are implemented, this consists of using the “best practicable means” and would prevent statutory nuisance occurring.

As long as the extraction system is properly maintained on a regular basis, it is also highly unlikely that odour will become an issue in the future.

1.Proposal

1.1 The hospitality property, The Tap House Manchester (herein referred to as the site) has completed this odour assessment in relation to the installation of pizza ovens and the associated extract system and is required to confirm that this system complies with external odour guidance.

1.2 This odour assessment is required to demonstrate the impact of the odour generated by the pizza cooking process within the site through the extract system installed. The extract disperses through the louvre in the façade alongside the air conditioning system.

2. Existing Context

2.1 The site is situated on the ground floor of a new development within a commercial unit. The site comprises of a ground floor trade area with mezzanine trade area, toilets and prep kitchen with 2no. pizza ovens only.

The site is adjacent to Brancaster road and is accessed directly from the pavement alongside, and through a pedestrian only area in Symphony way to access the main entrance.

The location of dispersement for the extract is Nobel Way above pavement level.

3. Policy & Guidance

3.1 Odour Technical Guidance

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- EMAQ, (2018) Control of Odour and Noise from Commercial Kitchen Exhaust Systems, an amendment of the original DEFRA document published in 2005, deals specifically with the control of kitchen odours.
- Guidance on the Assessment of Odour for Planning, Version 1.1 Institute of Air Quality Management (IAQM), 2018. The IAQM published the 'Guidance on the Assessment of Odour for Planning' document in July 2018. This guidance specifically deals with assessing odour impacts for planning purposes, namely potential effects on amenity.

3.2 The magnitude of odour impact depends on a number of factors and the potential for adverse impacts varies due to the subjective nature of odour perception. The FIDOL acronym is a useful reminder of the factors that can be used to help determine the degree of odour pollution:

- Frequency of detection - frequent odour incidents are more likely to result in adverse impacts;
- Intensity as perceived - intense odour incidents are more likely to result in adverse impacts;
- Duration of exposure - prolonged exposure is more likely to result in adverse impacts;
- Offensiveness - more offensive odours have a higher risk of resulting in adverse impacts;
- Receptor sensitivity - (The type of land use and nature of human activities in the vicinity of an odour source. Tolerance and expectation of the receptor.)

4. Nearest sensitive receptor

4.1 The Nearest sensitive receptors (NSR's) have been identified as the residential apartments above the site.

5. Odour Assessment

5.1 This odour assessment relates to the potential odour emanating from the cooking process from the pizza oven and the associated extract system within trading hours at The Tap house Manchester site and the potential impacts on the NSRs in close proximity of the extract system.

Nature and Effect of Odour

5.2 Odour is perceived by our brains in response to chemicals present in the air we breathe. Odour is the effect that those chemicals have upon us. Humans have sensitive senses of smell, and they can detect odour even when chemicals are present in very low concentrations. Most odours are a mixture of many chemicals that interact to produce what we detect as an odour.

5.3 Different life experiences and natural variation in the population can result in different sensations and emotional responses by individuals to the same odorous compounds. Because the response to odour is synthesised in our brains, other senses such as sight and taste, and even our upbringing, can influence our perception of odour and whether we find it acceptable, objectionable, or offensive.

Assessment Methodology

5.4 The assessment of odour takes into consideration the following aspects:

- A qualitative assessment of proposed odour emissions from the change of use development.

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- An assessment taking into account the nature of the premises;
- The height and position of the extract
- The recommended exit velocity from the extract; and
- The distance between the extract and the potential odorous emissions and the distance to the sensitive receptor.

Guidance on Control of Odours from Kitchens

- The Department for Environment Food and Rural Affairs (DEFRA) originally published Guidance (now withdrawn) on the control of odours from kitchens. That guidance has been subsequently updated by 'Control of Odour and Noise from Commercial Kitchen Exhaust Systems' (EMAQ, July 2018).
- Although the guidance is not statutory, it provides very useful information on best practice techniques for the minimisation of odour nuisance from kitchen exhaust systems. This source of guidance and ACCON's own experience form the basis of the assessment to determine whether nearby occupiers of existing residential properties would consider that odour emanating from the kitchen extract flue is acceptable or not.

General Principles in controlling odours

5.5 The guidance is generally used for premises where food is cooked for patrons on or off the premises and where a kitchen is used to prepare and cook food. In these instances, a kitchen canopy/extract system, are invariably present.

5.6 The main purpose of a kitchen canopy/extract system is to extract excess heat, steam, fats, smoke and odour arising from cooking processes. Removal of these unwelcome by-products of kitchen activity helps to achieve a reasonably comfortable and safe working environment, protect the working environment, as well as preventing the spread of the products from the kitchen area to other parts of the building.

5.7 Odours from cooking are contained both within the solid, liquid and gaseous material which is extracted through a relevant extract system, and these different phases generally require different abatement techniques to reduce levels of odour to those levels which are acceptable to those in the vicinity. The extent to which any odour mitigation is required is dependent on the type of foods being prepared and cooked.

5.8 The type and levels of odour control required downstream of the canopy is very much dependent on a number of factors. The principle ones are:

- Type of food prepared. This is probably the most dominant factor as the type of food, and particularly any spices used, dictates the chemical constituents present in the exhaust air;
- Size of the cooking facility. The number of covers (general food output from the kitchen); and
- Types of cooking appliances used. This dictates the level of fat, water droplets and temperature within the ventilation air.

5.9 The guidance includes two Tables which classify the odour and grease content of extract air according to the general cooking type and equipment used. These are reproduced in Appendix 3 (Table B1 and Table B2). The information, in Appendix, has been used in this report to carry out the odour risk assessment in respect of the consented use of the development.

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6. Odour Impact Assessment

6.1 Based on the observed location of the external extraction system, this odour impact assessment and Odour Management Plan has been undertaken in accordance with the EMAQ guidance 'Control of Odour and Noise from Commercial Kitchen Exhaust Systems'.

Risk Assessment

6.2 The guidance provides a means of risk assessing the impact of any catering establishment and proposed and existing uses. The key elements of the method are reproduced in the Appendix. The method relies on scoring the proposal on four different aspects:

- **Dispersion** – where the extract vents to atmosphere in relation to the building to which the vent is attached.
- **Proximity of receptors** – the location of the nearest residents;
- **The kitchen size** – number of covers, i.e. level of activity; and
- **Cooking type** – based on grease and odour loading.

6.3 The level of odour which is created by a premises will depend on the size of kitchen and type of cooking. These can be determined using categories which have been set out in the guidance and are replicated in Appendix B.

6.4 The scores for each aspect are summed to derive an overall significance score, an impact risk, and a statement about the odour control requirement. The guidance has been utilised where possible to determine the risk of odour nuisance from the proposed change of use development, without any additional odour abatement in place.

6.5 The risk assessment provided in Table 1, is a worst-case scenario.

Table 1 Odour Risk Assessment – The Tap House Manchester

	Descriptor	Score	Impact Risk	Odour Control Requirement
Dispersion:	• Poor Discharges at 5500mm height	15	High	High level odour control
Proximity of receptors:	• Close Residential units above site within 20m of extract discharge	10		
Size of kitchen/food prep area:	• Small 24m2 The pizza ovens serve a maximum	1		

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	of 30 pizzas per day.			
Cooking Type: (Odour & grease loading)	Low Pizzas Only	1		
Total:		27		

6.6 The extract system discharges at 5500mm (Poor, Score 15). There are receptors within 20m of the extract (Close, Score 10).

6.7 The food prep area although there is a large trade area, the food offering is a minimal pizza menu only with minimal pizza oven capacity, the prep area only has an area of 24m² with 2no. pizza ovens serving a maximum of 30 pizza covers on an average trading Saturday (and 15 on other days), (Small, Score 1).

6.8 There are only pizzas only being prepared and cooked at the premises. Therefore, the cooking type is classed as Low (Score 1).

6.9 The results of the overall assessment are potentially a High Risk. (Score 27)

7. The Odour Management plan

7.1 Section 6 has quantified that as a worst case there is deemed to be a high risk of potential nuisance and ordinarily a high level of mitigation would be recommended.

Ventilation and Extract system

7.2 There has already been installation of an external flue extract to the RHS of the property.

- This has had a CFI Inline 3000 carbon filter fitted to minimise any odour dispersion.

Maintenance Programme (Type, Frequency and Regime)

7.3 To minimise the risk of complaints, it is recommended that:

- A visual inspection of the ventilation system be carried out at least once a week. All metal surfaces should be checked to ensure that there is no accumulation of grease or dirt and that there is no surface damage;
- Extract system should be cleaned on a daily basis;
- Cleaning period for extract ductwork should be as follows:

Use	No. of hours per day	Minimal cleaning interval
Heavy Use	12-16	Every 3 months
Moderate Use	6-12	Every 6 months
Light Use	2-6	Annually

7.4 Based on the information provided, it is likely that the premise will be of Heavy use and should be cleaned and serviced as follows:

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- Annual 'deep hygiene cleaning' and servicing should be undertaken by a specialist contractor.
- All accessible main ductwork runs and branches, including fitted equipment should be inspected and cleaned periodically.

Recommendations for maintenance of odour control system

7.5 Carbon filtration;

- Change carbon filter annually as required on advice of specialist contractor following service.

7.6 Daily cleaning/regular inspections keeps the filter working at their optimum efficiency and will greatly reduce the number of service visits required.

7.7 Odour control methods and management methods as detailed here, and the frequency of servicing is complied with. Audit & service records should be maintained at all times on site.

Summary

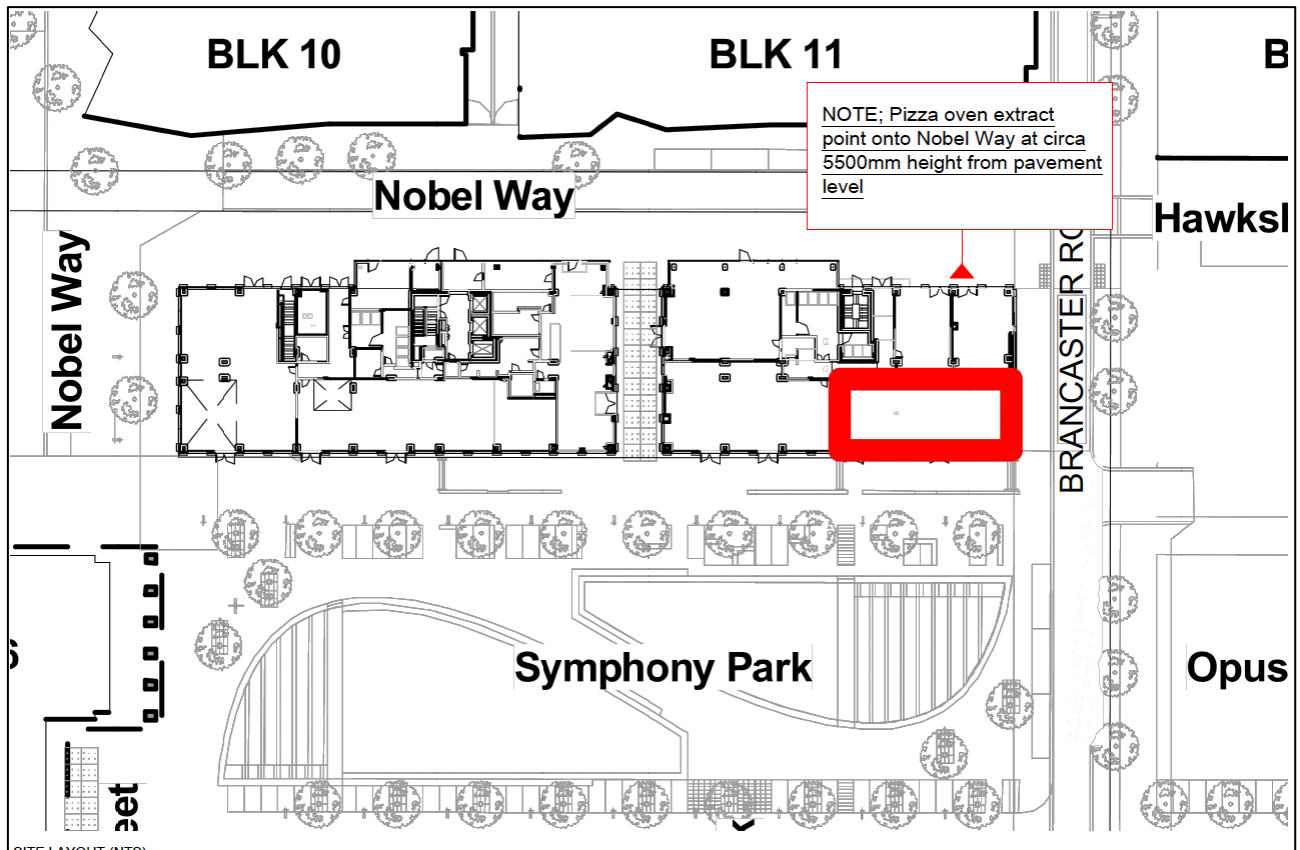
8.1 With respect to odour, it has been identified that providing the afore mentioned control measures are in use, and cleaning/management methods are completed regularly, there should not be a loss of amenity at the existing residential receptors in the vicinity of the extraction dispersement area and use of the "best practicable means" and prevents statutory nuisance occurring.

8.2 If the extraction system is properly maintained on a regular basis, it is highly unlikely that the odour will become an issue in the future.

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Appendices

Appendix A – Site Location – Location indicated with red outline.



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Appendix B - EMAQ Odour Impact Risk Assessment Methodology – Tables B1 & B2

Odour control must be designed to prevent odour nuisance in a given situation. The following score methodology is suggested as a means of determining odour control requirements using a simple risk assessment approach.

Impact Risk	Odour Control Requirement	Significance Score*
Low to medium	Low level odour control	<20
High	High level odour control	20-35
Very high	Very high level odour control	>35

*based on the sum of contributions from dispersion, proximity of receptors, size of kitchen and cooking type.

Criteria	Descriptor	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 20 m from kitchen discharge
	Medium	5	Closest sensitive receptor between 20-100m from kitchen discharge
	Far	1	Closest sensitive receptor greater than 100m from kitchen discharge
Size of kitchen Cooking type (odour and grease loading)	Large	5	More than 100 covers or large sized restaurant
	Medium	3	Between 30-100 covers or medium sized restaurant
	Small	1	Less than 30 covers or small restaurant
	Very high	10	Pub (high level of fried food), fried chicken, burgers or fish and chips
	High	7	Kebab, Vietnamese, Thai or Indian
	Medium	4	Cantonese, Japanese or Chinese
	Low	1	Most pubs, Italian, French, pizza or steakhouse

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Appendix C – Specification for Carbon Filter

CFI In-line 3000 - Carbon Filter

£ 235.00 (excl. VA

£ 282.00 (inc. VA



Product Description	Downloads
CF Industrial Inline Carbon Filters, Suitable for all general ventilation requirements including kitchens and horticulture applications,	
Airflow Capacity: 3000 M3/H Material: Galvanised Steel Filter Length: 1100mm Carbon Type: Lite Carbon Bed: 50mm Carbon Weight: 14.3 kgs Total Weight: 40.5 kgs Overall Diameter 450mm	
Available Duct Connections: 315mm	
This In-Line model offers added product value for the following reasons: 1. Easy to maintain in between ducting material, due to his double flange connection and additional housing. 2. Directly connectable to heat recovery systems. For capturing gasses directly from the semi-closed airstream. 3. Available in various sizes, for all kind of airflows 4. Available also with various types of carbon. In case specific gases occurs. 5. In case harmful gasses occur. The carbon filters will not be exposed during replacement. Due to the fact, you are only in contact with the external housing.	