Odour Assessment

Winters Building, St. Ann's Square, Manchester

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Prepared by	Natasha Jones	Natasha Jones		
Position	Senior Air Quality Consultant	Senior Air Quality Consultant		
Reviewed by	Ceri Haines	Ceri Haines		
Position	Senior Air Quality Consultant	Senior Air Quality Consultant		
Authorised by	Claire Meddings	Claire Meddings		
Position	Director	Director		
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Serendipity Labs, Building 7, Exchange Quay, Salford, M5 3EP

info@red-env.co.uk | 0161 706 0075 | www.red-env.co.uk

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Executive Summary

Redmore Environmental Ltd was commissioned by CubicWorks Ltd to undertake an Odour Assessment in support of the refurbishment and conversion of the second, third and fourth floors of the Winters Building, St. Ann's Square, Manchester to residential use.

The site is located in proximity to a number of commercial properties including restaurants, fast food establishments and coffee shops. These have the potential to produce odour emissions during normal operation which may lead to odour impacts at the proposed development. A two-stage Odour Assessment was therefore undertaken to determine baseline conditions at the site and its suitability for the proposed end-use.

Three Field Odour Surveys were undertaken in order to assess odour impacts across the development site. An Odour Risk Assessment was also undertaken using a standard screening methodology to consider the potential risk of reduced amenity. The results of these two methods were combined and a number of additional factors considered to determine the significance of odour impact.

The results of the two-stage Odour Assessment indicated the potential for odour effects at residential apartments located at the rear façade of the site, adjacent to the existing lightwell. As such, it is recommended that there are no openable windows for these apartments and a mechanical ventilation system incorporating carbon filtration should be installed to ensure odour is removed from the ambient air prior to it entering the apartments.

The Applicant has confirmed that residential apartments will be served by a mechanical ventilation system. In addition, no openable windows are proposed for apartments at the rear façade of the development, adjacent to the lightwell. Ventilation to these apartments will be provided through the mechanical ventilation system incorporating carbon filtration to remove potential odours from the supplied air. This approach is consistent with recommendations outlined within this report.

Following implementation of the specified mitigation, the overall effects of odour on the proposed development are not considered to be significant and odour is not considered a constraint to planning consent for the development.

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Appendix 1 - Curricula Vitae

1.0 INTRODUCTION

1.1 Background

1.1.1 Redmore Environmental Ltd was commissioned by CubicWorks Ltd to undertake an Odour Assessment in support of the refurbishment and conversion of the second, third and fourth floors of the Winters Building, St. Ann's Square, Manchester to residential use.

1.1.2 The site is located in proximity to a number of commercial properties including restaurants, fast food establishments and coffee shops. These have the potential to produce odour emissions during normal operation which may lead to odour impacts at the proposed development. A two-stage Odour Assessment was therefore undertaken to determine baseline conditions at the site and its suitability for the proposed end-use.

1.2 Site Location and Context

1.2.1 The Winters Building is located off St. Ann's Square, Manchester, at approximate National Grid Reference (NGR): 383825, 398349. The relevant Local Authority (LA) is Manchester City Council (MCC). Reference should be made to Figure 1 for a map of the site and surrounding area.

1.2.2 The proposals comprise the refurbishment of the building and conversion of the second, third and fourth floors to residential use. The basement, ground and first floors will be retained as retail use. Reference should be made to Figure 2 for the residential site layout plans.

1.2.3 Nearby commercial properties have the potential to produce odour emissions during normal operation which may cause impacts at the development. A two-stage Odour Assessment was therefore undertaken in order to determine baseline conditions at the site and consider the potential for significant effects. This included three Field Odour Surveys and a Risk Assessment. The findings are detailed in the following report.

2.0 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 impact 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[2] as follows:

- **F**requency of detection - how often an individual is exposed to odour;
- **I**ntensity - the individual's perception of the strength of the 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.

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

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

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 regards 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;
- 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 Odour 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, such as commercial kitchens, is that provided in Section 79 of Part III of the Environmental Protection Act (1990). The Act defines nuisance as:

> "Any dust, steam, odour 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 LA 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.

2.4 National Planning Policy

2.4.1 The revised National Planning Policy Framework[3] (NPPF) was published in December 2024 and amended in February 2025. This sets out the Government's planning policies for England and how these are expected to be applied.

2.4.1 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, including 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."

2.4.2 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."

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

2.5 Regional Planning Policy

2.5.1 The Greater Manchester Combined Authority (GMCA) 'Places for Everyone (PfE) Joint

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

Development Plan Document'[4] was adopted by MCC and became part of the development plan on 21st March 2024. Review of the PfE Joint Development Plan Document was undertaken and no policies of relevance to the assessment were identified.

2.6 Local Planning Policy

2.6.1 The Manchester Local Plan consists of a series of planning documents of which the Core Strategy Development Plan Document (DPD)[5] is central. This was adopted by MCC on 11th July 2012.

2.6.2 Review of the Core Strategy DPD indicated the following policies of relevance to the assessment:

> "Pollution DM1 - Development Management
>
> All development should have regard to the following specific issues for which more detailed guidance may be given within a supplementary planning document:
>
> […]
>
> Effects on amenity, including privacy, light, noise, vibration, air quality, odours, litter, vermin, birds, road safety and traffic generation […]"

2.6.3 The above policy was taken into consideration throughout the undertaking of the assessment.

2.7 Institute of Air Quality Management Guidance

2.7.1 The IAQM published the 'Guidance on the Assessment of Odour for Planning'[6] document

[4] PfE Joint Development Plan Document, GMCA, 2024.

[5] Core Strategy DPD, MCC, 2012.

[6] Guidance on the Assessment of Odour for Planning, IAQM, 2014.

on 20th May 2014. This was updated in 2018[7] and specifically deals with assessing odour impacts for planning purposes, namely potential effects on amenity. The assessment methodology outlined in the guidance has been utilised in throughout this report where relevant.

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

3.0 BASELINE

3.1 Introduction

3.1.1 Existing conditions in the vicinity of the site were identified in order to provide a baseline for the assessment. These are detailed in the following Sections.

3.2 Site Description

3.2.1 The proposed development is located within Manchester city centre and is surrounded by a mix of commercial, retail and community uses. The site is bounded to the north by the Royal Bank of Scotland, with additional commercial and retail premises beyond. To the east and south are commercial units, including Mr Thomas's Chop House and Franco Manca, respectively. St Ann's Church is located immediately to the west of the site, with further retail units beyond.

3.2.2 It should be noted that the rear façade of the development building is adjacent to an existing lightwell. The lightwell is an unroofed external space allowing natural light into the interiors of the proposed development building and the National House. The lightwell also houses a flue serving Mr Thomas's Chop House. Reference should be made to Figure 4 for a diagram of the lightwell and associated flue.

3.3 Potential Odour Sources

Desk Top Study

3.3.1 A desk-top study was undertaken in order to identify any potential odour sources in the vicinity of the development that required specific consideration during the assessment. The premises in closest proximity to the site, and therefore likely to represent the most significant risk to amenity levels at the proposals, are summarised in Table 1.

Table 1 Potential Odour Sources

Source		Distance from Site (m)	Direction from Site	Description of Activities	Potential Emissions
1	Mr Thomas's Chop House	5	East	British food restaurant	Cooked food odours

Source		Distance from Site (m)	Direction from Site	Description of Activities	Potential Emissions
2	Franco Manca	15	South	Pizza restaurant	Cooked food odours
3	Blank Street	35	South	Coffee Shop	Cooked food odours
4	Greggs	35	North-east	Fast food takeaway	Cooked food odours
5	Miller and Carter	35	East	Steak restaurant	Cooked food odours
6	The Rice Bowl	35	East	Asian restaurant	Cooked food odours
7	El Gato Negro	40	South	Tapas restaurant	Cooked food odours
8	McDonald's	60	North-west	Fast food restaurant	Cooked food odours

3.3.2 As shown in Table 1, eight potential odour sources have been identified in the vicinity of the site which were considered as part of the assessment. Reference should be made to Figure 3 for a map showing the source locations.

Site Visit

3.3.3 A site visit was undertaken on 15th June 2026 to visually assess and further investigate the potential odour sources identified in Table 1. This indicated that the premises represent potential sources of cooking odour emissions, including fugitive emissions from entrance doors being left open during operation and emissions discharged via dedicated extract flues.

3.3.4 Due to the built-up nature of the surrounding area and limited visibility from publicly accessible areas, the dispersion of emissions for the majority of potential sources could not be observed or confirmed during the site visit. However, the extract flue associated with Mr Thomas's Chop House was identified during the site visit. Air is extracted from the kitchen and discharged to atmosphere via a dedicated flue located on the rear façade of Mr Thomas's Chop House building above ridge level. The flue is also located to the rear of the proposed site, within the existing lightwell, and discharges below eaves level of the development. Figure 4 provides a photograph of the flue location.

3.3.5 The identified emission sources have been considered appropriately within the assessment.

3.4 Meteorological Conditions

3.4.1 The potential for atmospheric emissions to impact at sensitive locations depends significantly on the meteorology, particularly wind direction, during release. In order to consider prevailing conditions at the site, review of historical weather data was undertaken. Meteorological data used in the assessment was taken from Manchester Airport meteorological station at NGR: 381792, 384116, which is approximately 14.2km south-west of the site. It is considered that conditions are likely to be reasonably similar over a distance of this magnitude and the information is a suitable source of data for an assessment of this nature.

3.4.2 Meteorological data was obtained from Manchester Airport meteorological station over the period 1st January 2020 to 31st December 2024 (inclusive). This is summarised in Table 2. Reference should be made to Figure 5 for a wind rose of the meteorological data.

Table 2 Wind Frequency Data

Wind Direction (°)	Frequency of Wind (%)
345 - 15	1.69
15 - 45	3.97
45 - 75	7.55
75 - 105	6.62
105 - 135	4.31
135 - 165	7.89
165 - 195	18.36
195 - 225	15.29
225 - 255	9.39
255 - 285	10.57
285 - 315	8.32
315 - 345	3.13

Wind Direction (°)	Frequency of Wind (%)
Sub-Total	97.08
Calms	1.12
Missing/Incomplete	1.79

3.4.3 As shown in Table 2, the prevailing wind direction at the site is from the south with significant frequencies form the south-west. Winds from the north and east are relatively infrequent, which is indicative of conditions throughout the majority of the UK.

3.4.4 All meteorological data used in the assessment was provided by Atmospheric Dispersion Modelling Ltd, which is an established distributor of meteorological data within the UK.

4.0 METHODOLOGY

4.1 Introduction

4.1.1 The development is located within the vicinity of a number of commercial premises that serve cooked food. An Odour Assessment has therefore been undertaken in accordance with the IAQM 'Guidance on the Assessment of Odour for Planning'[8] document, as summarised in the following Sections. This approach was discussed with Graeme Souter, Environmental Protection Officer at MCC, on 10th June 2026.

4.2 Field Odour Surveys

Background

4.2.1 An adverse effect of odour exposure, such as annoyance or loss of amenity, is subjective and is not something that can be wholly defined or assessed by scientific methods alone. An assessment can therefore be strengthened by including a subjective assessment of prevailing odour conditions by those directly affected or by experienced, trained, observers.

4.2.2 Sensory testing techniques use the human nose as the analytical sensor to enable the odour magnitude (as either intensity or concentration), frequency, duration and offensiveness of the odour to be recorded at a particular location at a specific time. This is a sound approach considering that no analytical instrument can currently give a unified measure of a complex mixture of compounds that quantifies it as a whole in the same way that a human experiences odour. Sensory testing also allows the character of the odour to be assessed, which is a great benefit when there are a number of different odour sources.

4.2.3 Subjective sensory tests, such as the Field Odour Survey, should not automatically be considered inferior to quantitative ambient monitoring. When carried out to a rigorous, well-designed methodology, the results of such sensory surveys can be expected to be robust and reproducible.

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

Field Odour Survey Procedure

4.2.4 Sensory tests were carried out at a number of survey locations on 15th June 2026 and 18th June 2026. The positions were chosen to provide an indication of conditions throughout the development site in relation to their proposed end use.

4.2.5 The survey locations are summarised in Table 3 and shown visually in Figure 6.

4.2.6 It should be noted that the windows on the second and third floor levels, which are proposed for residential apartments, were not openable during the undertaking of the surveys. As such, no positions were located on these floors.

Table 3 Survey Locations

Position	Location Description	Proposed Use
1	Basement level, close to hatch	Retail
2	Basement level, close to chop house	Retail
3	4th floor, facing into lightwell	Residential
4	4th floor, fronting St Ann's Street	Residential
5	4th floor, fronting St Anns Square	Residential
6	Ground floor, St Ann's Street	Retail
7	Ground floor, St Ann's Square	Retail
8	Ground floor, south-west corner of building	Retail

4.2.7 Monitoring was undertaken over a 5-minute period at each position. For each test location, the start time of the observation period, meteorological conditions and the attributes of the odour were recorded as follows:

- The assessor breathed normally, inhaling ambient air samples through the nose every 10-seconds, to give 30 samples over the 5-minute observation period;
- For each sample, the odour intensity was recorded using the scale outlined in Table 4;

Table 4 Odour Intensity Scale

Odour Strength	Intensity Level	Comments
No odour/not perceptible	0	No odour when compared to the clean site
Slight/very weak	1	There is probably some doubt as to whether the odour is actually present
Slight/weak	2	The odour is present but cannot be described using precise words or terms
Distinct	3	The odour character is barely recognisable
Strong	4	The odour character is easily recognisable
Very strong	5	The odour is offensive. Exposure to this level would be considered undesirable
Extremely strong	6	The odour is offensive. An instinctive reaction would be to mitigate against further exposure

- At the end of the observation period at the test location, the odour unpleasantness was noted by classifying it as unpleasant, neutral (neither pleasant nor unpleasant) or pleasant. This assumed that at least some of the 30 samples were of intensity 3 or more (i.e. the odour is at least 'barely recognisable');
- The odour descriptor and meteorological conditions were also noted;
- The pervasiveness/ extent of the odour at the test location was assessed by calculating the percentage odour time, $t_{I\geq4}$, which is the number of samples where odour was recognisable divided by the total number of samples (i.e. 30). Note that 'recognisable odour' is where the odour strength exceeds the recognition threshold and is definitely recognisable by the assessor i.e. the assessor is capable of definitely identifying its quality/character, which corresponds to an intensity of 4 or more; and,
- The average odour intensity (I_{mean}) over the test period was calculated and the maximum intensity (I_{max}) noted.

4.2.8 The following additional factors were also adopted to safeguard the quality of the sensory assessments:

- The odour assessor would not have undertaken the assessment if they had a cold, sore throat, sinus trouble, etc;
- The odour assessor was not hungry or thirsty;
- The odour assessor did not work within half an hour of the end of their last meal;

- The odour assessor did not smoke or consume strongly flavoured food or drink, including coffee, for at least half an hour before the field odour survey was carried out, or during the survey;
- The odour assessor did not consume confectionery or soft drinks for at least half an hour before the field odour survey was carried out, or during the survey;
- Scented toiletries, such as perfume/ aftershave were not used on the day of the field odour survey; and,
- The vehicle used during the field odour survey did not contain any deodorisers.

Odour Exposure

4.2.9 Following completion of the Field Odour Surveys, the matrix outlined in Table 5 was utilised to determine the level of odour exposure at each monitoring location.

Table 5 Odour Exposure

Average Intensity (I_{mean})	Percentage Odour Time ($t_{I\geq4}$)				
	≤10%	11% to 20%	21% to 30%	31% to 40%	≥41%
6	Large	Very Large	Very Large	Very Large	Very Large
5	Medium	Large	Large	Very Large	Very Large
4	Small	Medium	Medium	Large	Large
3	Small	Medium	Medium	Medium	Medium
2	Small	Small	Medium	Medium	Medium
1	Small	Small	Small	N/A	N/A

4.2.10 It should be noted that I_{mean} was rounded to the nearest whole number.

4.2.11 The following overriding considerations also affect the scoring of the odour annoyance impact:

- If I_{mean} = 0, then the odour effect can for practical purposes be considered **negligible**; and,
- If I_{mean} = 1 but $t_{I\geq4}$ = 0%, then the odour effect can for practical purposes be considered **negligible**.

Significance of Odour Effect

4.2.12 Following the determination of the odour exposure level, the significance of effect was determined through the interaction with receptor sensitivity, as outlined in Table 6.

Table 6 Odour Receptor Sensitivity

Sensitivity	Description
High	Surrounding land where: • Users can reasonably expect enjoyment of a high level of amenity; and, • People would reasonably be expected to be present here continuously, or at least regularly for extended periods, as part of the normal pattern of use of the land Examples may include residential dwellings, hospitals, schools/ education and tourist/ cultural
Medium	Surrounding land where: • Users would expect to enjoy a reasonable level of amenity, but would not reasonably expect to enjoy the same level of amenity as in their home; or, • People would not reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land Examples may include places of work, commercial/ retail premises and playing/ recreation fields
Low	Surrounding land where: • The enjoyment of amenity would not reasonably be expected; or, • There is transient exposure, where the people would reasonably be expected to present only for limited periods of time as part of the normal pattern of use of the land Examples may include industrial use, farms, footpaths and roads

4.2.13 The assessment matrix is provided in Table 7.

Table 7 Odour Effect Significance

Overall Odour Exposure	Receptor Sensitivity		
	Low	Medium	High
Very Large	Substantial	Substantial	Substantial
Large	Moderate	Moderate	Substantial
Medium	Slight	Slight	Moderate
Small	Negligible	Negligible	Slight

Overall Odour Exposure	Receptor Sensitivity		
	Low	Medium	High
Negligible	Negligible	Negligible	Negligible

4.3 Risk Assessment

Background

4.3.1 The basic concept of risk assessment is that the overall risk depends on the probability of an event occurring together with the likely consequences if it was to occur. For odour assessments the probability can be considered as the likelihood of exposure (impact), and the consequence can be considered to be the effect on the receptor if that exposure (impact) took place. These two facets can be summarised by the source-pathway-receptor concept.

4.3.2 Behind the source-pathway-receptor concept, is the fundamental relationship:

Effect ≈ Dose x Response

4.3.3 In the specific case of odour assessments, the dose can be considered equivalent to the odour exposure, or impact. This will be determined by FIDO of the FIDOL factors. The effect is the result of the changes on specific receptors (people in the case of odour) taking into account their sensitivities (i.e. responsiveness to odour), the L (location) in FIDOL is to categorise the sensitivity.

4.3.4 The IAQM guidance states that a qualitative risk-based approach is appropriate for:

- Screening of odour impacts;
- Development proposals likely to have a low risk of adverse effects;
- Situations where there is insufficient information to carry out detailed predictive dispersion modelling;
- Situations where the information has wide uncertainties and its use as input to a detailed predictive dispersion model would be at best a waste of time, money and effort or, worse, would lead to an illusory and false impression of accuracy and precision in the numbers generated; and,

- When the model is not able to properly represent the reality of the situation being assessed, e.g. if the odour effects are likely to be significantly influenced by accidental, unexpected, or unknown releases. In such instances a qualitative estimate may be more appropriate, on the basis that it is better to be broadly correct than precisely wrong.

4.3.5 It is considered that the third, fourth and fifth criteria are met for this project. As such, a qualitative assessment methodology was deemed appropriate.

Risk Assessment Procedure

4.3.6 The first step in the assessment is to estimate the odour generating potential of the site activities. This is termed the Source Odour Potential, which takes into account three factors:

- The scale (magnitude) of the release from the odour source, taking into account the effectiveness of any odour control or mitigation measures that are already in place. This involves judging the relative size of the release rate after mitigation and taking account of any pattern of release (e.g. intermittency);
- How inherently odorous the emission is. In some cases it may be known whether the release has a low, medium or high Odour Detection Threshold (ODT). This is the concentration at which an odour becomes detectable to the human nose. In most instances the odours released by a source will be a complex mixture of compounds and the detectability will not be known. However, for some industrial processes the odour will be due to one or a small number of known compounds and the detection thresholds will be a good indication of whether the release is highly odorous or mildly odorous; and,
- The relative pleasantness/ unpleasantness of the odour.

4.3.7 Using the example risk ranking in Table 8, the Source Odour Potential can be categorised as **small**, **medium** or **large**.

Table 8 Source Odour Potential

Source Odour Potential	Comments
Large	**Magnitude** - Larger Environmentally Permitted processes of odorous nature or large Sewage Treatment Works (STWs); materials usage hundreds of thousands of tonnes/m^3 per year; area sources of thousands of m^2. The compounds involved are very odorous (e.g. mercaptans), having very low ODTs where known **Unpleasantness** - processes classed as "Most offensive" in Environment Agency (EA) Guidance H4[9]; or (where known) compounds/odours having unpleasant (-2) to very unpleasant (-4) hedonic score **Mitigation/control** - open air operation with no containment, reliance solely on good management techniques and best practice
Medium	**Magnitude** - smaller Environmentally Permitted processes or small STWs; materials usage thousands of tonnes/m^3 per year; area sources of hundreds of m^2. The compounds involved are moderately odorous **Unpleasantness** - processes classed in EA Guidance H4[10] as "Moderately offensive"; or (where known) odours having neutral (0) to unpleasant (-2) hedonic score **Mitigation/control** - some mitigation measures in place, but significant residual odour remains
Small	**Magnitude** - falls below Environmental Permit Part B threshold; materials usage hundreds of tonnes/m^3 per year; area sources of tens m^2. The compounds involved are only mildly odorous, having relatively high ODTs where known **Unpleasantness** - processes classed as "Less offensive" in EA Guidance H4[11]; or (where known) compounds/odours having neutral (0) to very pleasant (+4) hedonic score **Mitigation/control** - effective, tangible mitigation measures in place leading to little or no residual odour

4.3.8 It should be noted that the EA Guidance H4[12] has been withdrawn. However, the IAQM guidance[13] retains reference to this document. As such, application of the descriptors within the EA Guidance H4 in accordance with the IAQM criteria is still considered to represent best practice. In addition, the provided definitions of odour offensiveness and how this is categorised are still considered to be relevant in the context of this assessment.

9 H4: Odour Management, EA, 2011.

10 H4: Odour Management, EA, 2011.

11 H4: Odour Management, EA, 2011.

12 H4: Odour Management, EA, 2011.

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

4.3.9 The next step is to estimate the effectiveness of the pollutant pathway as the transport mechanism for odour through the air to the receptor, versus the dilution/ dispersion in the atmosphere. Any factor that increases dilution and dispersion of the plume as it travels from source to receptor will reduce the concentration at the end point, and hence reduce exposure. Important factors for consideration are:

- The distance between sensitive receptors and the odour source;
- Whether receptors are downwind with respect to the prevailing wind direction. Odour episodes often tend to occur during stable atmospheric conditions with low wind speed, which gives poor dispersion and dilution. Receptors close to the source in all directions can be affected under these conditions. When circumstances are not calm, it will be the downwind receptors that are affected. As such, receptors that are downwind with respect to the prevailing wind direction tend to be at higher risk of odour impact;
- The effectiveness of the point of release in promoting good dispersion e.g. releasing emissions from a high stack will increase the pathway, dilution and dispersion; and,
- The topography and terrain between the source and receptor. The presence of topographical features such as hills and valleys, or urban terrain features such as buildings, can affect air flow and therefore increase, or inhibit, dispersion and dilution.

4.3.10 Using the example risk ranking in Table 9, the pollutant pathway from source to receptor can be categorised as **ineffective**, **moderately effective**, or **highly effective**.

Table 9 Pathway Effectiveness

Pathway Effectiveness	Comments
Highly effective	**Distance** - receptor is adjacent to the source/ site; distance well below any official set-back distances **Direction** - high frequency of winds from source to receptor, or, qualitatively, receptors downwind of source with respect to prevailing wind **Effectiveness of dispersion/ dilution** - open processes with low-level releases, e.g. lagoons, uncovered effluent treatment plant, landfilling of putrescible wastes
Moderately effective	**Distance** - receptor is local to the source **Where mitigation relies on dispersion/ dilution** - releases are elevated, but compromised by building effects

Pathway Effectiveness	Comments
Ineffective	**Distance** - receptor is remote from the source; distance exceeds any official set-back distances **Direction** - low frequency of winds from source to receptor, or, qualitatively, receptors upwind of source with respect to prevailing wind **Where mitigation relies on dispersion/ dilution** - releases are from high level (e.g. stacks, or roof vents greater than 3m above ridge height) and are not compromised by surrounding buildings

4.3.11 The sensitivity of the receiving receptor is defined based on the criteria shown in Table 6.

4.3.12 The estimates of Source Odour Potential and Pathway Effectiveness are considered together to predict the risk of odour exposure (impact) at the receptor location, as shown by the matrix in Table 10.

Table 10 Risk of Odour Exposure

Pathway Effectiveness	Source Odour Potential		
	Small	Medium	Large
Highly effective	Low	Medium	High
Moderately effective	Negligible	Low	Medium
Ineffective	Negligible	Negligible	Low

4.3.13 The final step is to determine the significance of odour effect at the specified receptor location through the interaction between sensitivity and risk, as outlined in Table 11.

Table 11 Significance of Odour Effect

Risk of Odour Exposure	Receptor Sensitivity		
	Low	Medium	High
High	Slight	Moderate	Substantial
Medium	Negligible	Slight	Moderate
Low	Negligible	Negligible	Slight
Negligible	Negligible	Negligible	Negligible

4.4 Overall Odour Significance

4.4.1 The IAQM guidance[14] states that a conclusion on the likely significance of the predicted impact should be reached. Where the overall effect is **moderate** or **substantial**, the effect is likely to be considered **significant**, whilst if the effect is **slight** or **negligible**, the impact is likely to be considered **not significant**. It should be noted that this is a binary judgement of either it is **significant** or it is **not significant**. This has been considered to determine the overall significance of potential odour effects at the development site.

4.4.2 The IAQM guidance recognises that assessment of odour requires some degree of professional judgement[15]. Qualitative methodologies such as those utilised within this report provide guidance for assessing potential impacts. However, professional judgement should be exercised in order to take account of the specific details which are unique to each development. This has been considered as necessary throughout the assessment. The IAQM also suggest that the assessor's qualifications and experience are detailed within an Odour Assessment. These are provided in Appendix 1.

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

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

5.0 RESULTS

5.1 Field Odour Surveys

Field Odour Survey 1

5.1.1 Field Odour Survey 1 was undertaken between 12:01 and 13:01 on 15th June 2026. The results are summarised in Table 12.

Table 12 Field Odour Survey 1 - Results

Position	$t_{I\geq4}$ (%)	I_{mean}	I_{max}	Unpleasantness	Odour Description	Notes
1	10	1	4	Neutral	Garlic, food	Chop House window open, extractor audibly in use
2	20	2	4	Neutral	Garlic, food	Chop House window open, extractor audibly in use
3	10	1	3	Neutral	Garlic, food, frying	Window just above height of Chop House flue
4	0	1	3	Unpleasant	Food, fish	-
5	0	1	3	Neutral	Food, gravy	-
6	0	1	3	Neutral	Food, frying	-
7	0	2	4	Unpleasant	Burnt toast, food	-
8	10	2	3	Neutral	Cigarette smoke, food	Pedestrian smoking near location

5.1.2 The meteorological conditions during the monitoring were dry and cloudy with temperatures between 16°C and 18°C. The wind direction was from the east-south-east at all positions. The wind speed was rated between 0 and 1 on the Beaufort scale.

Field Odour Survey 2

5.1.3 Field Odour Survey 2 was undertaken between 18:02 and 18:53 on 15th June 2026. The

results are summarised in Table 13.

Table 13 Field Odour Survey 2 - Results

Position	$t_{I\geq4}$ (%)	I_{mean}	I_{max}	Unpleasantness	Odour Description	Notes
1	0	1	2	N/A	Damp	Rained earlier in day, area not well ventilated
2	0	2	3	Neutral	Damp, food	Rained earlier in day, area not well ventilated
3	30	3	4	Neutral	Frying food, food, gravy	Extractor audibly in use
4	0	1	2	N/A	Food	-
5	0	1	3	Neutral	Frying food, food	-
6	0	1	3	Unpleasant	Cigarette smoke	Pedestrian smoking cigarette passing location
7	0	1	2	N/A	Food	-
8	0	1	3	Neutral	Frying food	-

5.1.4 The meteorological conditions during the monitoring were dry and clear with temperatures between 20°C and 21°C. The wind direction was from the east-south-east at all positions. The wind speed was rated between 0 and 1 on the Beaufort scale.

Field Odour Survey 3

5.1.5 Field Odour Survey 3 was undertaken between 15:39 and 16:22 on 18th June 2026. The results are summarised in Table 14.

Table 14 Field Odour Survey 3 - Results

Position	$t_{I\geq4}$ (%)	I_{mean}	I_{max}	Unpleasantness	Odour Description	Notes
1	0	1	3	Neutral	Damp, food, garlic	-
2	0	1	3	Neutral	Damp	Extractor audibly in use

Position	$t_{\geq 4}$ (%)	I_{mean}	I_{max}	Unpleasantness	Odour Description	Notes
3	20	2	4	Neutral	Burnt toast, fried food, garlic	Extractor audibly in use
4	0	0	1	N/A	N/A	-
5	0	0	2	N/A	Fried food	-
6	0	1	2	N/A	Food	-
7	0	0	2	N/A	Food	-
8	0	1	2	N/A	Waste, food	Bin store next to location

5.1.6 The meteorological conditions during the monitoring were dry and cloudy with temperatures of approximately 25°C. The wind direction was from the south-south-west throughout the survey. The wind speed was rated between 0 and 2 on the Beaufort scale.

Odour Exposure and Significance

5.1.7 Following completion of the three Field Odour Surveys, odour exposure at each of the monitoring locations was determined. This is summarised in Table 15. Any exposure greater than **negligible** is shown in **bold**.

Table 15 Field Odour Surveys - Odour Exposure Risk

Position	Odour Exposure		
	Field Odour Survey 1	Field Odour Survey 2	Field Odour Survey 3
1	**Small**	Negligible	Negligible
2	**Small**	Negligible	Negligible
3	Negligible	**Medium**	**Small**
4	Negligible	Negligible	Negligible
5	Negligible	Negligible	Negligible
6	Negligible	Negligible	Negligible
7	**Small**	Negligible	Negligible
8	Negligible	Negligible	Negligible

5.1.8 As shown in Table 15, odour exposure was **medium** at one position during survey 2 and **small** at three locations during survey 1 and one position during survey 3. The exposure was **negligible** at all remaining monitoring positions. It should be noted that impacts relate to all odours detected, as well as those thought to be associated with cooking food sources.

5.1.9 The significance of the odour impact at each location was determined in accordance with the criteria outlined in Table 7. The proposed development includes retail and residential land use. These are considered to be of **medium** and **high** sensitivity, respectively. A **high** sensitivity classification was applied to all positions in order to ensure a worst-case assessment.

5.1.10 The significance of the odour exposure results for the Field Odour Surveys is summarised in Table 16.

Table 16 Odour Significance

Position	Odour Exposure		
	Field Odour Survey 1	Field Odour Survey 2	Field Odour Survey 3
1	**Slight**	Negligible	Negligible
2	**Slight**	Negligible	Negligible
3	Negligible	**Moderate**	**Slight**
4	Negligible	Negligible	Negligible
5	Negligible	Negligible	Negligible
6	Negligible	Negligible	Negligible
7	**Slight**	Negligible	Negligible
8	Negligible	Negligible	Negligible

5.1.11 As shown in Table 15, impacts were **moderate** at one position during survey 2 and **slight** at three locations during survey 1 and one position during survey 3. Impacts were **negligible** at all remaining monitoring locations. Reference should be made to Figure 7 for a graphical representation of the findings.

5.2 Risk Assessment

5.2.1 The sources identified in Table 1 are considered to represent the premises most likely to cause odour effects at the development site and include restaurants and coffee shops. The Source Odour Potential was categorised as **small** for all sources for the following reasons:

- The premises are not covered by the Environmental Permitting (England and Wales) Regulations (2016);
- Most cooked food odours would be considered 'less offensive', in accordance with EA Guidance H4[16];
- Most cooked food odours have positive hedonic scores; and,
- The kitchens are not continuously operational.

5.2.2 The pathway effectiveness was subsequently defined between the source and the development based on the distances between the locations and the prevailing meteorological conditions in relation to the site. This is summarised in Table 17.

Table 17 Odour Pathway Effectiveness

Source		Pathway Effectiveness	Justification
1	Mr Thomas's Chop House	Highly effective	The source is adjacent to the proposed development, located to the rear façade of the building The development is predominantly downwind of the source Extraction flue discharges below the eaves of the proposed development at the rear façade of the building and into the existing lightwell
2	Franco Manca	Highly effective	The source is local to the proposed development, located approximately 15m south at the closest point The development is predominantly downwind of the source High frequency of winds from the source to the development (33.65%)

16 H4: Odour Management, EA, 2011.

Source		Pathway Effectiveness	Justification
3	Blank Street	Moderately effective	The source is local to the proposed development, located approximately 35m south at the closest point The development is predominantly downwind of the source
4	Greggs	Moderately effective	The source is local to the proposed development, located approximately 35m north-east at the closest point The development is upwind of the source
5	Miller and Carter	Moderately effective	The source is local to the proposed development, located approximately 35m east at the closest point The development is neither upwind or downwind of the source
6	The Rice Bowl	Moderately effective	The source is local to the proposed development, located approximately 35m east at the closest point The development is neither upwind or downwind of the source
7	El Gato Negro	Moderately effective	The source is local to the proposed development, approximately 40m south at the closest point The development is predominantly downwind of the source
8	McDonald's	Moderately effective	The source is local to the proposed development, approximately 60m north-west at the closest point The development is upwind of the source

5.2.3 The proposed development includes retail and residential land use. These are considered to be of **medium** and **high** sensitivity, respectively. However, in order to provide a conservative assessment, a **high** sensitivity was used throughout the Risk Assessment.

5.2.4 The above information has been used to assess odour risk from the source. This is summarised in Table 18.

Table 18 Odour Risk Assessment

Source		Source Odour Potential	Pathway Effectiveness	Exposure Risk	Sensitivity of Receptor	Effect Significance
1	Mr Thomas's Chop House	Small	Highly effective	Low	High	Slight

Source		Source Odour Potential	Pathway Effectiveness	Exposure Risk	Sensitivity of Receptor	Effect Significance
2	Franco Manca	Small	Highly effective	Low	High	Slight
3	Blank Street	Small	Moderately effective	Negligible	High	Negligible
4	Greggs	Small	Moderately effective	Negligible	High	Negligible
5	Miller and Carter	Small	Moderately effective	Negligible	High	Negligible
6	The Rice Bowl	Small	Moderately effective	Negligible	High	Negligible
7	El Gato Negro	Small	Moderately effective	Negligible	High	Negligible
8	McDonald's	Small	Moderately effective	Negligible	High	Negligible

5.2.5 As shown in Table 18, the predicted odour effect significance was **slight** as a result of emissions from Mr Thomas's Chop House and Franco Manca. The predicted odour effect significance for the remaining sources was **negligible.**

6.0 DISCUSSION

6.1 Field Odour Surveys

6.1.1 As shown in Table 12 to Table 14, a range of odours were detected during the three Field Odour Surveys. These are discussed further in the following Section.

6.1.2 A cigarette smoke odour was detected during survey 1 at position 8 and during survey 2 at location 6. The emissions were as a result of pedestrians passing whilst smoking cigarettes and resulted in **negligible** impacts.

6.1.3 A waste type odour associated with a nearby bin store was also detected at position 8 during survey 3. The emissions resulted in **negligible** impacts.

6.1.4 Damp type odours were detected were detected at positions 1 and 2 during surveys 2 and 3. The emission source of these odours was unclear. However, it was noted that the positions were located at the rear of the development, within the lightwell. This area is not well ventilated which is likely to have contributed to the damp type odours. This odour led to **negligible** impacts at both positions during the surveys.

6.1.5 Odours associated with food were detected during all surveys, including garlic, frying, fish, gravy, burnt toastand general food odours. These emissions are likely to have originated from the commercial premises identified in Table 1, which are located in close proximity to the proposed development. The odours contributed to a **moderate** impact at position 3 during survey 2 and **slight** impacts at positions 1,2 and 7 during survey 1 and at position 3 during survey 3. At all other survey positions, odour impacts were identified as **negligible.**

6.1.6 It should be noted that the **moderate** and **slight** odour impacts identified during the surveys were primarily recorded at positions within the existing lightwell or facing into the lightwell at the rear of the development building. As the flue associated with Mr Thomas's Chop House discharges below the eaves of the proposed development within the lightwell, it is considered likely that emissions from this source contributed to the cooking odours and associated impacts observed at proposed residential apartment locations on the fourth floor.

6.1.7 Residential apartments are also proposed on the second and third floors of the development. However, as the windows serving these floors were not openable at the time of the surveys, these floors were not included within the Field Odour Surveys. That said, given their proximity to Mr Thomas's Chop House and the existing lightwell, a similar level of odour impact may be experienced at these elevations.

6.1.8 As shown in Section 5.1, low wind speeds were experienced during all three surveys. These can contribute to poor dispersion and dilution of emissions. In addition, the development was downwind of a number of the identified odour sources during the monitoring periods. Consequently, the results can be considered a robust representation of odour conditions at the development site during worst-case conditions.

6.2 Risk Assessment

6.2.1 The Odour Risk Assessment indicated that the predicted odour effect significance was **slight** as a result of emissions from Mr Thomas's Chop House and Franco Manca. All other identified sources had a predicted odour effect significance of **negligible**.

6.3 Summary

6.3.1 Three Field Odour Surveys were undertaken across the site in accordance with the IAQM methodology[17]. The results indicated odour impacts ranging between **negligible** and **medium.** This is predicted to result in effects of **negligible**, **slight** and **moderate** at the proposed development site.

6.3.2 The risk of potential odour effects at the development was also assessed using the IAQM methodology. This included consideration of the Source Odour Potential, pathway effectiveness and receptor sensitivity. The results of the assessment indicated the predicted odour effect significance was **slight** as a result of emissions from Mr Thomas's Chop House and Franco Manca and **negligible** at all other identified sources.

6.3.3 The IAQM guidance[18] states that only if the impact is **moderate** or **substantial**, the effect is considered **significant**. As a **moderate** impact was identified at position 3 during survey 2,

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

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

it is recommended that that mitigation is implemented to reduce the impact of odour on future residents of the proposed development. This is discussed further in the Section below.

7.0 MITIGATION

7.1.1 To reduce the potential for odour impacts on future residents, it is recommended that there are no openable windows for any residential apartments proposed at the rear façade of the development, adjacent to the lightwell. These apartments should be ventilated through a mechanical ventilation system incorporating carbon filtration to ensure odour is removed from the ambient air prior to it entering the apartments.

7.1.2 Mechanical ventilation is suggested within the IAQM 'Land-Use Planning & Development Control: Planning for Air Quality'[19] document for locations where residents may be affected by poor air quality. Although the guidance primarily relates to general pollution levels, the concept is also relevant to odour emissions. As such, it is considered a suitable solution for a development of this size and nature.

7.1.3 It should be noted that the Applicant has confirmed that residential apartments will be served by a mechanical ventilation system, with fresh air supplied via high-level intake vents within the existing dormers facing St Ann's Churchyard. No openable windows are proposed for apartments on the rear façade of the development, adjacent to the lightwell. Ventilation to these apartments will be provided through the mechanical ventilation system incorporating carbon filtration to remove potential odours from the supplied air. This approach is consistent with the recommendations set out above.

7.1.4 Following implementation of the specified mitigation, the overall effects of odour on the proposed development is considered to be **not significant**.

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

8.0 CONCLUSION

8.1.1 Redmore Environmental Ltd was commissioned by CubicWorks Ltd to undertake an Odour Assessment in support of the refurbishment and conversion of the second, third and fourth floors of the Winters Building, St. Ann's Square, Manchester to residential use.

8.1.2 The site is located in proximity to a number of commercial properties including restaurants, fast food establishments and coffee shops. These have the potential to produce odour emissions during normal operation which may lead to odour impacts at the proposed development. A two-stage Odour Assessment was therefore undertaken to determine baseline conditions at the site and its suitability for the proposed end-use.

8.1.3 Three Field Odour Surveys were undertaken in accordance with the IAQM methodology. The results indicated odour impacts ranging between **negligible** and **medium**. This is predicted to result in effects of **negligible** to **moderate** at the proposed development site.

8.1.4 The risk of potential odour effects at the development was assessed using the IAQM methodology. This included consideration of the Source Odour Potential, pathway effectiveness and receptor sensitivity. The results of the assessment indicated the predicted odour effect significance was **slight** as a result of Mr Thomas's Chop House and Franco Manca and **negligible** as a result of all other identified sources.

8.1.5 Based on the Field Odour Survey results, it is recommended that there are no openable windows for any residential apartments located at the rear façade of the development, adjacent to the existing lightwell, due to the proximity to Mr Thomas's Chop House flue. These apartments should be ventilated through a mechanical ventilation system incorporating carbon filtration to ensure odour is removed from the ambient air prior to it entering the apartments.

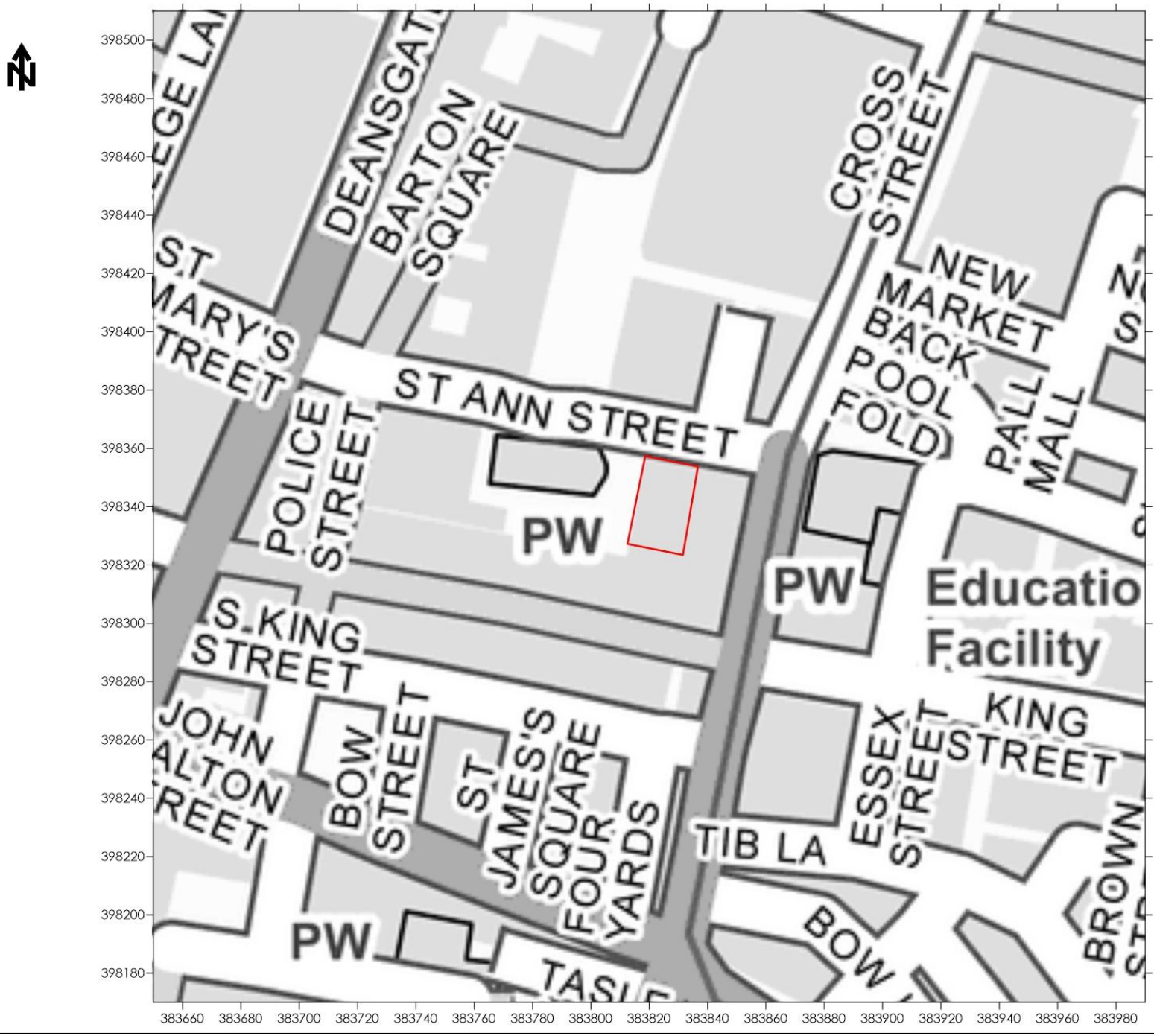
8.1.6 The Applicant has confirmed that residential apartments will be served by a mechanical ventilation system, with fresh air supplied via high-level intake vents within the existing dormers facing St Ann's Churchyard. In addition, no openable windows are proposed for apartments at the rear façade of the development, adjacent to the lightwell. Ventilation to these apartments will be provided through the mechanical ventilation system incorporating carbon filtration to remove potential odours from the supplied air. This approach is consistent with recommendations outlined within this report.

8.1.7 Following implementation of the specified mitigation, the overall effects of odour on the proposed development is considered to be **not significant** and odour is not considered a constraint to planning consent for the development.

9.0 ABBREVIATIONS

DPD	Development Plan Document
EA	Environment Agency
GMCA	Greater Manchester Combined Authority
I_{max}	Maximum odour intensity
I_{mean}	Average odour intensity
IAQM	Institute of Air Quality Management
LA	Local Authority
MCC	Manchester City Council
NGR	National Grid Reference
NPPF	National Planning Policy Framework
ODT	Odour Detection Threshold
PfE	Places for Everyone
$t_{I \geq 4}$	Percentage odour time
STW	Sewage Treatment Works

Figures



Legend

Site Boundary

Title
Figure 1 - Site Location

Project
Odour Assessment
Winters Building, St. Ann's Square, Manchester

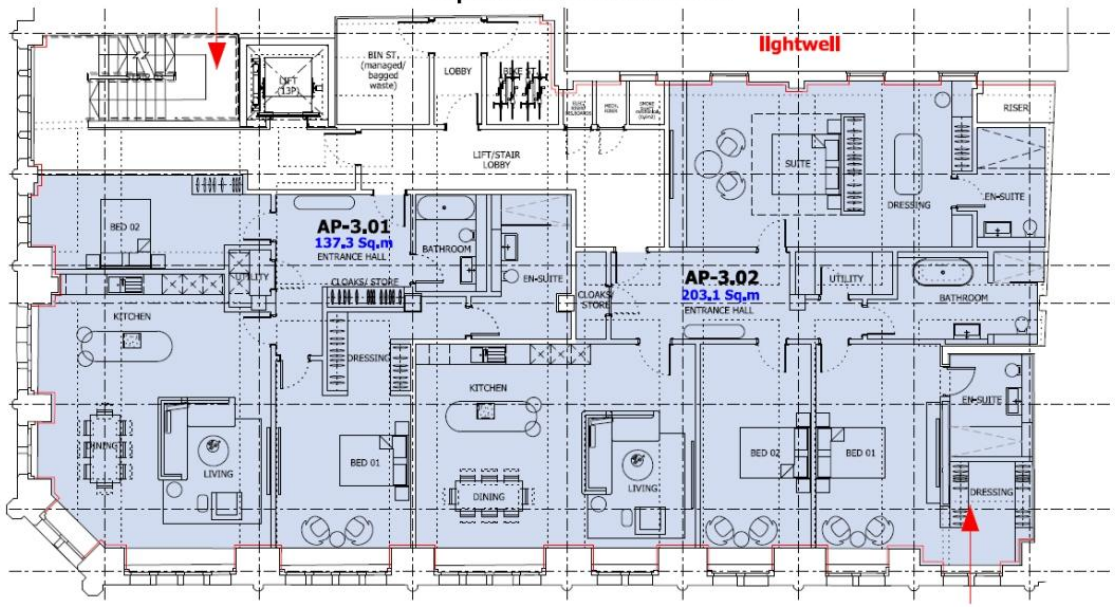
Project Reference
11115-1

Client
CubicWorks Ltd

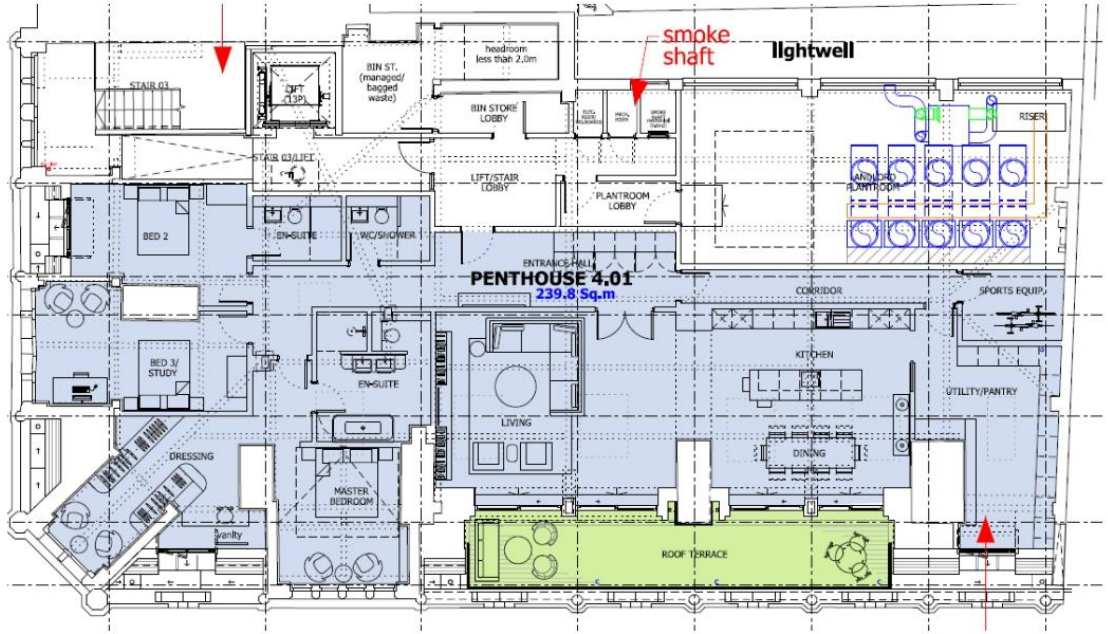
Contains Ordnance Survey Data
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Proposed Third Floor Plan



Proposed Fourth Floor Plan



Legend

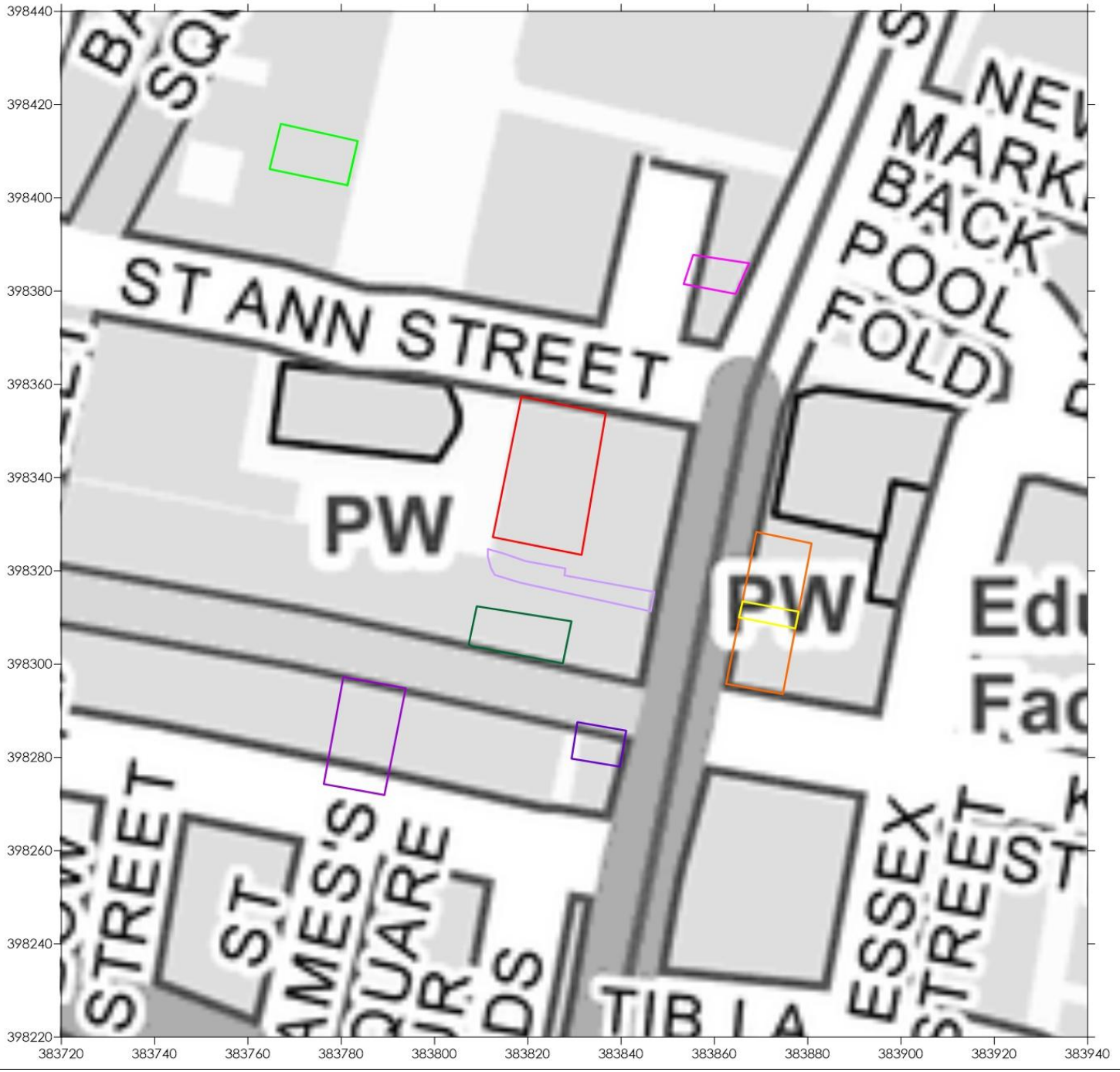
Title
Figure 2 - Proposed Third Floor and Fourth Floor Plans

Project
Odour Assessment
Winters Building, St. Ann's Square, Manchester

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Legend

- Site Boundary
- McDonalds
- Franco Manca
- El Gato Negro
- The Rice Bowl
- Miller and Carter
- Blank Street
- Mr Thomas's Chop House
- Greggs

Title
Figure 3 - Potential Odour Sources

Project
Odour Assessment
Winters Building, St. Ann's Square, Manchester

Project Reference
11115-1

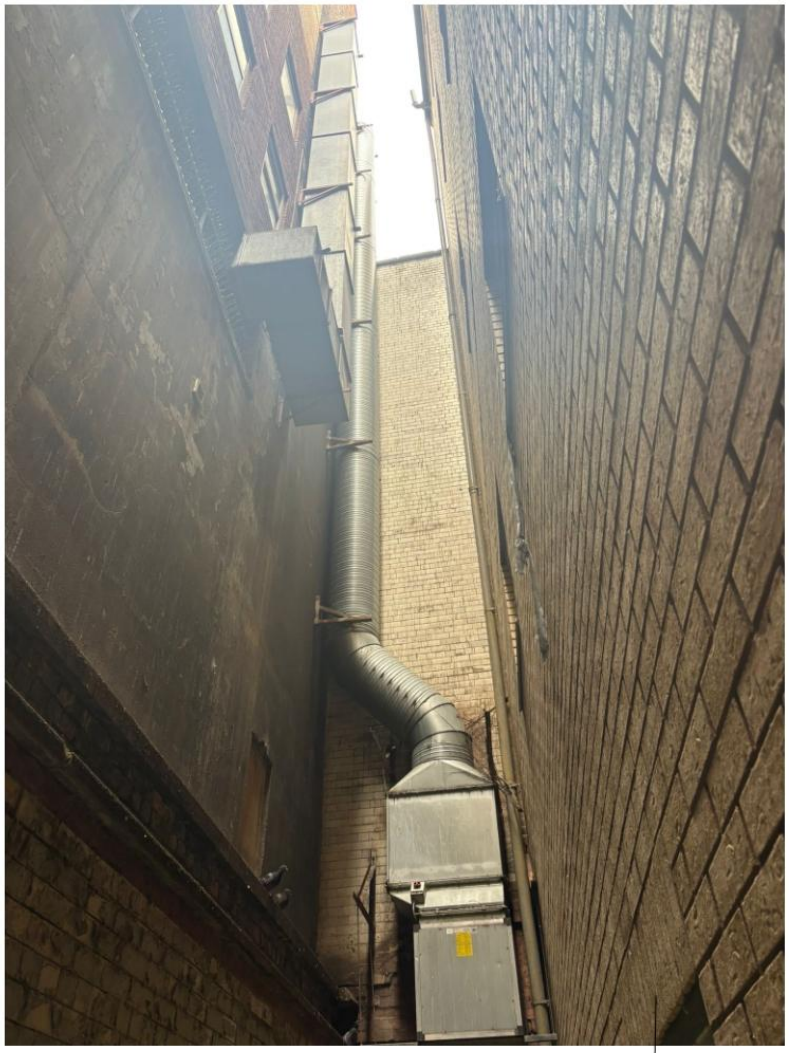
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Proposed Development
Rear Facade





Proposed Development
Rear Facade

Legend

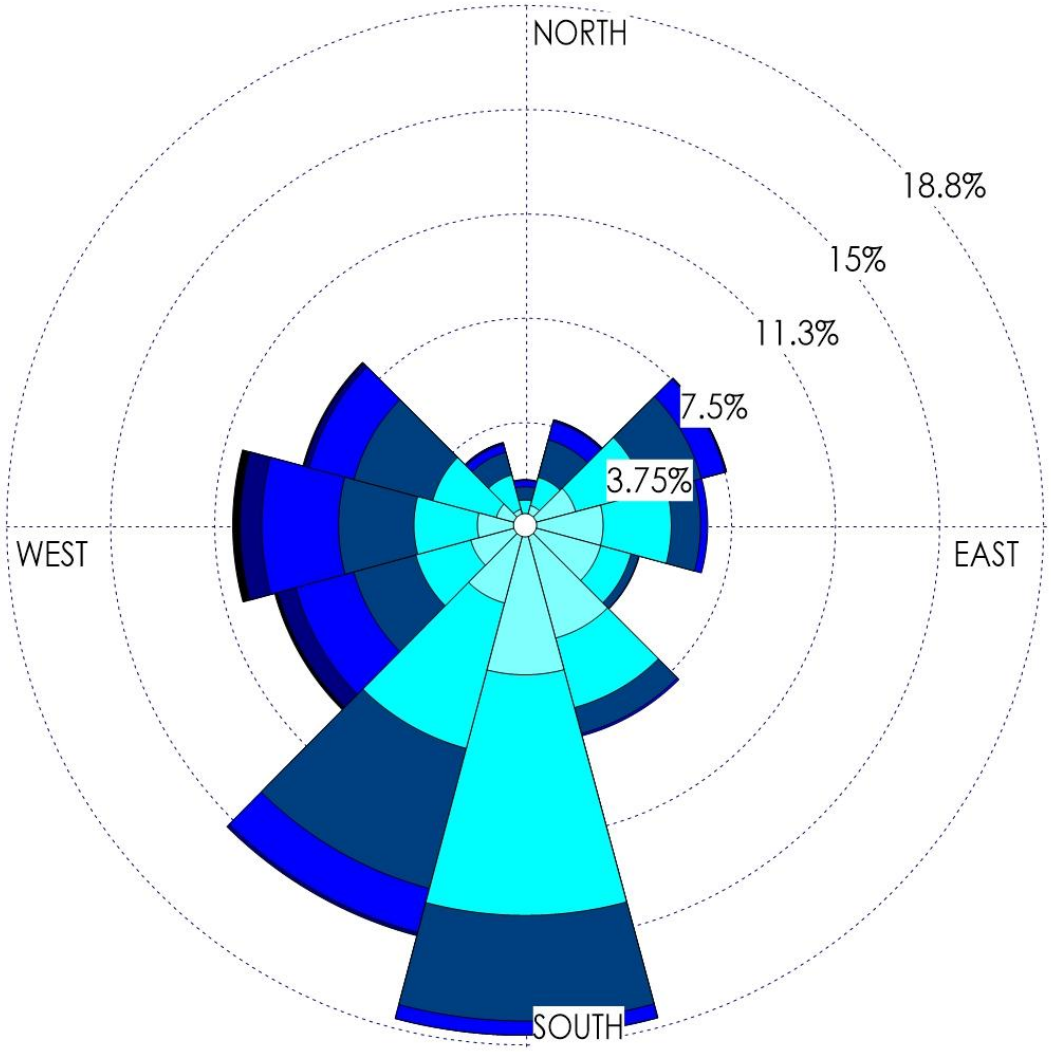
Title
Figure 4 - Flue Serving Mr Thomas's Chop House

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Legend

WIND SPEED (m/s)

- >= 11.10
- 8.80 - 11.10
- 5.70 - 8.80
- 3.60 - 5.70
- 2.10 - 3.60
- 0.50 - 2.10

Calms: 1.12%

Title
Figure 5 - Wind Rose of 2020 to 2024 Manchester Airport Meteorological Data

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Legend

Site Boundary

Survey Positions

Title

Figure 6 - Field Odour Survey Positions

Project

Odour Assessment
Winters Building, St. Ann's Square, Manchester

Project Reference

11115-1

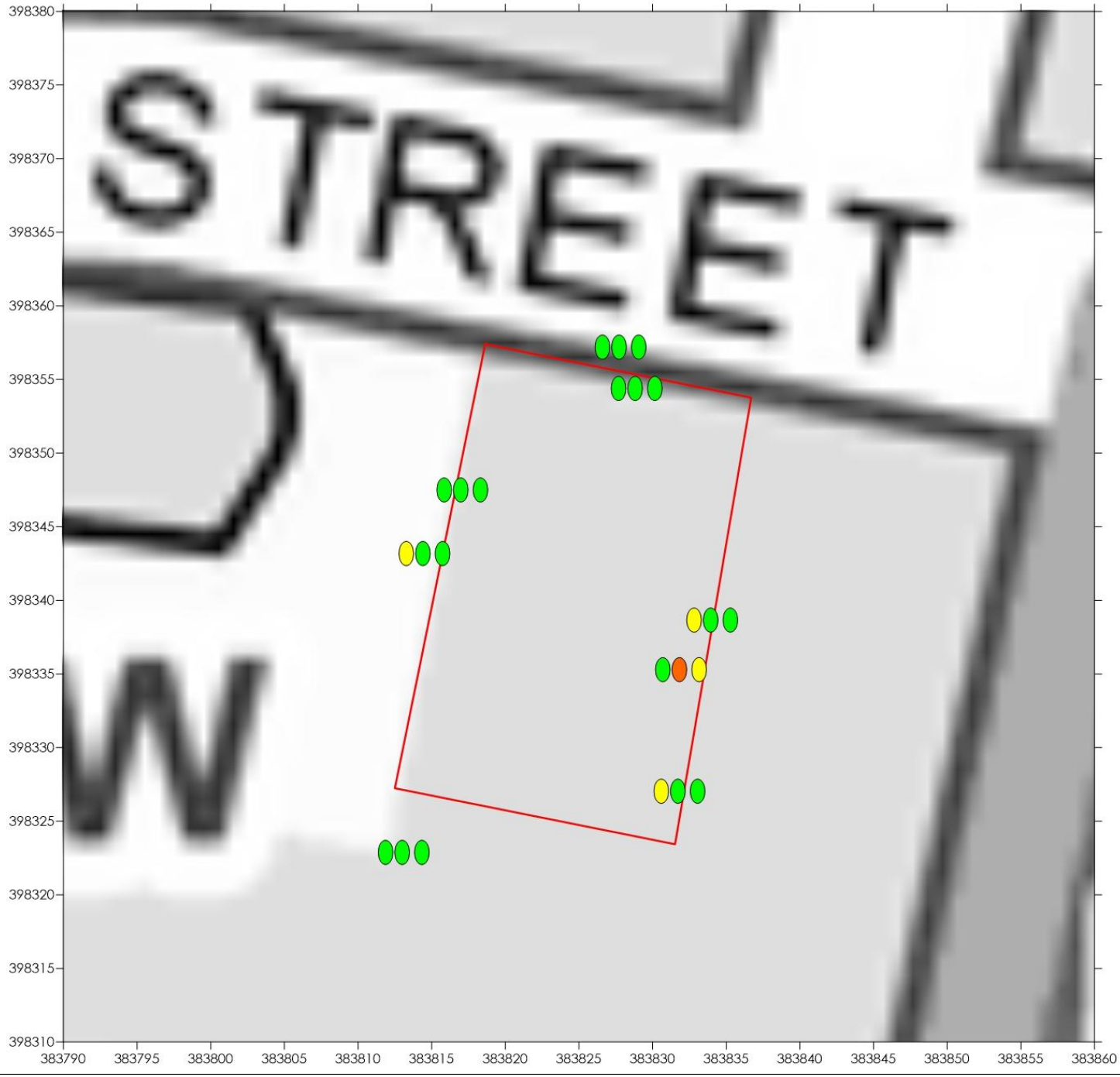
Client

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Legend

- Site Boundary
- Substantial
- Moderate
- Slight
- Negligible

Title
Figure 7 - Field Odour Survey Results

Project
Odour Assessment
Winters Building, St. Ann's Square, Manchester

Project Reference
11115-1

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Appendix 1 - Curricula Vitae

NATASHA JONES

Senior Air Quality Consultant

BSc (Hons), MSc, AMIEnvSc, AMIAQM

Tel: 0161 706 0075 | Email: natasha.jones@red-env.co.uk

KEY EXPERIENCE:

Natasha is an Environmental Consultant with specialist experience in the air quality sector. Her key capabilities include:

- Production of Air Quality Assessments in accordance with Department for Environment, Food and Rural Affairs (DEFRA) methodologies for a range of residential, commercial and industrial sectors.
- Detailed dispersion modelling of road vehicle exhaust emissions using ADMS-Roads. Studies have included impact assessments on sensitive receptors and exposure of new residents to poor air quality.
- Dispersion modelling of odour from Wastewater Treatment Works to predict the odour footprint and likely effects on amenity of nearby sensitive receptors
- Odour surveys to assess amenity and suitability of sites for potential future development for residential use.
- Production of Air Quality Neutral Assessments in accordance with The London Plan.
- Advanced canyon modelling to evaluate the impact of altered urban topography on air quality in built up areas.
- Assessment of construction dust impacts from a range of development sizes.
- Production of Air Quality Chapters for Environmental Impact Assessments.

SELECT PROJECTS SUMMARY:

Redbeck Motel, Crofton

Air Quality Assessment in support of a residential development comprising demolition of the existing motel and construction of up to 90 dwellings on land off Doncaster Road, Crofton. The development had the potential to expose future occupants to any existing air quality issues and cause impacts at sensitive locations. Dispersion modelling was undertaken using ADMS-Roads due to the number of vehicle movements expected to be generated by the development. A construction dust assessment was also performed to provide mitigation for proposed dust generating activities. Results of the study indicated that air quality impacts and fugitive dust emissions were not significant.

Arundel Road, Tangemere

Air Quality Assessment in support of a residential development at Cassons Restaurant, Tangmere. Following concerns from the Local Authority regarding the potential exposure of future residents to poor air quality, dispersion modelling was undertaken in order to predicted air quality conditions across the site. Results indicated concentrations did not represent a constraint to planning consent.

Hespin Wood, Carlisle

Monitoring and assessment of Ambient Bioaerosols in support of Environmental Permit compliance for an Open Windrow Compost. The facility has the potential to impact nearby receptors to bioaerosols. As such, monitoring was undertaken to determine conditions in the vicinity of the site. Results indicated both species were below the EA benchmark levels at all positions.

Land off Hayward Gardens, Ashburton South Estate, Putney

Air Quality Neutral Assessment in support of demolition of existing structures and construction of two new buildings to provide 43 dwellings, with a community room. The assessment was carried out in accordance with the London Plan requirements to ensure proposals did not lead to further deterioration of existing air quality. Following discussions and implementation of the identified strategies, compliance with the London Plan was achieved.

Arcade Street, Wigan

Odour Assessment in support of a conversion from existing offices to provide seven apartments. The proposals were located in close proximity to a number of hot food takeaways. As such, the Local Authority raised concerns that odour emissions may cause loss of amenity to future residents. A programme of Field Odour Surveys was undertaken to assess odour impacts from said premises. Results indicated odour effects at the site were not considered significant.

Placefirst, Exchange Quay

Workplace Air Quality Monitoring to investigate concerns that employees may be at risk of exposure to poor air quality as a result of the existing ventilation. Following a previous programme of monitoring, relative humidity levels (RH) were below the Health and Safety Executive guidelines (HSE). As such, an additional programme of monitoring was undertaken. This included monitoring of inhalable and respirable dusts, Volatile Organic Compounds, Carbon dioxide, RH and temperature. Results indicated all parameters were below the relevant WELs and within HSE guidelines.

CLAIRE MEDDINGS

Director

MSc, BSc (Hons), CSci, MIAQM, MIEnvSc

Tel: 0161 706 0075 | Email: Claire.Meddings@red-env.co.uk

KEY EXPERIENCE:

Claire is a Director with specialist experience in the air quality sector.

Her key capabilities include:

- Production and management of Air Quality, Dust and Odour Assessments for a wide range of clients from the residential, retail, commercial, leisure and industrial and infrastructure sectors.
- Detailed dispersion modelling of road vehicle and industrial emissions using ADMS-Roads, ADMS-6 and AERMOD. Studies have included impact assessment of ground level pollutant and odour concentrations and assessment of suitability of development sites for proposed end-use.
- Project management and co-ordination of Environmental Impact Assessments and scoping reports for developments throughout the UK.
- Assessment of fugitive dust impacts from a range of waste and industrial developments.
- Co-ordination and management of large-scale multi-disciplinary projects and submissions.
- Undertaken and overseeing pollutant monitoring campaigns.
- Provision of expert advice and attendance at DCO examination process.

SELECT PROJECTS SUMMARY:

Residential and Educational

Air Quality Assessments for a large number of proposed residential and educational developments across the UK. The assessments included consideration of construction phase dust emissions and mitigation was recommended to minimise fugitive dust emissions accordingly. The suitability of the sites for the proposed residential and educational uses was also assessed. The assessment utilised a range of assessment tools including relevant screening criteria, air dispersion modelling using ADMS-Roads, local air quality monitoring and Defra published assessment tools. Where required for sites in London, Air Quality Neutral assessments were also undertaken utilised the Greater London Authority guidance.

Air Quality Monitoring

Air Quality Assessments and overseeing air quality monitoring campaigns for a number of sites within Birmingham. Air dispersion modelling was undertaken and air quality monitoring utilising NO_2 diffusion tubes was carried out for use in verification of the dispersion model. Mitigation was recommended where appropriate to reduced the exposure of future uses of the sites to elevated pollutant concentrations.

Odour Assessments

Undertaken to support developments in the UK, including consideration of the impact of existing odour sources on proposed developments or to assess proposed odour releases. A combination of field odour surveys, risk assessments and detailed dispersion modelling were undertaken, with mitigation measures recommended where required.

Commercial and Retail

Foodstores across the UK - Air quality assessments for a number of proposed foodstores across the UK. Consideration was given to construction phase dust emissions and vehicle emissions generated by the foodstore operations. Relevant screening criteria and detailed air dispersion modelling were utilised in the assessment. Mitigation was recommended as required to minimise construction phase dust emissions.

Commercial development, Worksop - Air quality assessment and input into the EIA for a proposed large scale commercial development near Worksop. Assessments of construction phase dust and operational phase road traffic emissions were undertaken and consideration was given to both human and ecological receptors.

Industrial and Infrastructure

Greater Manchester Waste PFI Contract - Air Quality and Odour Assessments were undertaken as part of the Planning Applications and Environmental Permit applications for a number of proposed waste facilities in Greater Manchester.

Energy from Waste Development, Scotland - Air Quality Assessment and coordination of the EIA and Environmental Permit Application for a proposed Energy from Waste development in Scotland. Considered industrial emissions from flue stacks as well as additional road traffic movements generated by the development

Strategic Rail Freight Interchange, Hinckley - oversaw the Air Quality Assessment for the proposed Rail Freight Interchange and acted as expert witness as part of the Development Consent Order (DCO) examination process.

CERI HAINES

Senior Air Quality Consultant

BSc (Hons), MSc, GradIEMA

Tel: 0161 706 0075 | Email: ceri.haines@red-env.co.uk

KEY EXPERIENCE:

Ceri is an Environmental Consultant with specialist experience in the air quality sector. Her key capabilities include:

- Production of Air Quality Assessments in accordance with Department for Environment, Food and Rural Affairs (DEFRA) methodologies for a range of residential, commercial and industrial sectors.
- Detailed dispersion modelling of road vehicle exhaust emissions using ADMS-Roads. Studies have included assessment of road traffic exhaust emissions on sensitive receptors and exposure of new residents to poor air quality.
- Advanced Canyon Modelling to evaluate the impact of altered urban topography on air quality in built up areas.
- Assessment of construction dust impacts from a range of development sizes.
- Definition of baseline air quality and identification of sensitive areas across the UK.
- Odour surveys to assess amenity and suitability of sites for potential future development for residential use.

SELECT PROJECTS SUMMARY:

Warren Street, Stockport

Air Quality Assessment in support of a residential-led development comprising 553 apartments and two commercial units located in an Air Quality Management Area (AQMA). The development had the potential to expose future occupants to poor air quality and cause impacts at sensitive locations. Detailed dispersion modelling and a construction dust assessment indicated air quality factors were not a constraint to the development.

Belgrave Gate, Leicester

Air Quality Assessment in support of the conversion of an existing building to provide three residential units on Belgrave Gate, Leicester. The scheme was located in an AQMA, alongside a bus station. As such, the development had potential to expose future residents to elevated pollution levels and adverse air quality effects. Results of detailed dispersion modelling utilising advanced canyons and a volume source to represent the bus station indicated air quality issues were not a constraint to planning consent for the development.

Kings Arms Hotel, Stansted

Odour Assessment in support of a Discharge of Condition application for a consented development on land to the rear of the Kings Arms Hotel, Stansted. The site was located in close proximity to several fast food restaurants which have the potential to cause odour emissions during normal operation. A mitigation scheme was therefore identified to protect future residents from loss of amenity. Subject to the inclusion of the specified mitigation, overall effects of odour were considered to be not significant at the development.

Manchester Road West, Little Hulton

Odour Assessment in support of construction of 152 residences on land off Manchester Road West, Little Hulton. The development was located in the vicinity of several waste management facilities which may form a source of odour emissions and cause loss of amenity for future residents. A two stage Odour Assessment was undertaken to assess baseline conditions across the site and consider the risk of reduced amenity. Results of the assessment indicated odour effects at the site did not represent a constraint to planning consent.

Gravel Pit Farm, Sand Hutton

Odour Assessment in support of the conversion of existing buildings into two residential dwellings on land at Gravel Pit Farm, Sand Hutton. The development was located in the vicinity of the Sand Hutton Anaerobic Digestion Plant, which may form a source of odour emissions and cause loss of amenity for future residents. Results of a two stage Odour Assessment indicated odour effects at the site were not significant. As such, odour was not considered to represent a constraint to planning consent.

A1 Trunk Road, Long Bennington

Odour Assessment in support of a residential development on land off the A1 Trunk Road, Long Bennington. The development was located in the vicinity of a maggot farm growing bait for fishermen. Results of a two stage Odour Assessment indicated that at the location of the proposed dwellings, impacts were not at a level considered to cause loss of amenity as a result of emissions. As such, odour was not considered to represent a constraint to planning consent.