



Odour Assessment

Land at Hade Edge, Kirklees

12436.2001

18th August 2026

Revision B





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A	First issue	JH	31 st March 2025
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2 Summary

- 2.1 This report has been prepared in support of a planning application for a proposed residential development on land off Dunford Road, Hade Edge, Kirklees.
- 2.2 The proposal is located within the vicinity of Flowery Fields Farm, a turkey rearing facility. This has the potential to produce odour emissions during normal operation which may lead to reduced amenity for future residents of the development. A two-stage Odour Assessment was therefore undertaken to determine baseline conditions at the site and consider its suitability for the proposed end-use.
- 2.3 Three Field Odour Surveys were undertaken to assess existing 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 overall significance of odour impact.
- 2.4 Based on the results of the staged assessment, the overall odour effects on the site as a result of emissions from Flowery Fields Farm are not considered to be significant in accordance with the relevant guidance criteria. As such, odour is not considered to represent a constraint to planning consent for the development.

3 Introduction

3.1 Background

- 3.2 This report has been prepared in support of a planning application for a proposed residential development on land off Dunford Road, Hade Edge, Kirklees.
- 3.3 The development is located within the vicinity of Flowery Fields Farm, a turkey rearing facility. This has the potential to produce odour emissions during normal operation which may lead to reduced amenity for future residents of the development. A two-stage Odour Assessment was therefore undertaken to determine baseline conditions at the site and consider its suitability for the proposed end-use.

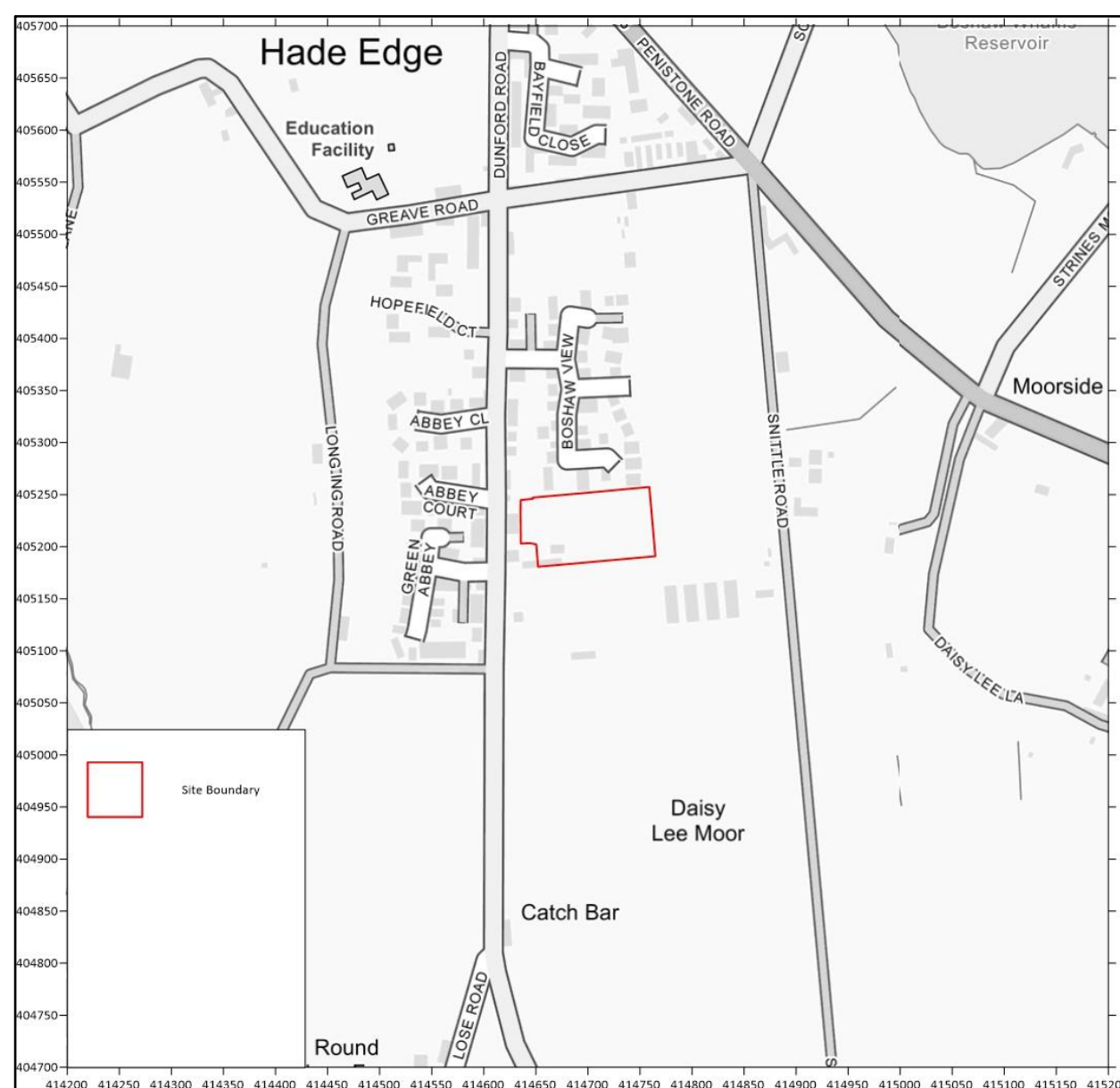


Figure 1: Site Location

3.4 Site Location and Context

- 3.5 The proposed development is located on land off Dunford Road, Hade Edge, Kirklees, at approximate National Grid Reference (NGR): 414705, 405225. Reference should be made to Figure 1 for a map of the site location.
- 3.6 The proposals comprise the erection of 22 residential properties with associated landscaping and infrastructure. Reference should be made to Figure 2 for the proposed site layout.
- 3.7 The scheme is located within the vicinity of Flowery Fields Farm which may form a source of odour during normal operation. A two stage Odour Assessment has therefore been undertaken to investigate potential odour impacts at the site and consider its suitability for the proposed end-use. This included Field Odour Surveys and a Risk Assessment. The findings are detailed in the following report.



Figure 2: Site Layout Plan

4 Odour Background

4.1 Odour Definition

4.2 The Institute of Air Quality Management (IAQM) guidance, Reference 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."

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

4.4 Odour Impacts

4.5 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, as outlined below, is a useful reminder of the factors that will determine the degree of odour pollution. These are described by the IAQM as follows:

- **Frequency** - How often an individual is exposed to odour;
- **Intensity** - The individual's perception of the strength of the odour;
- **Duration** - The overall duration that individuals are exposed to an odour over time;
- **Odour 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,
- **Location** - 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.

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

4.7 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;
- 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.

4.8 Odour Legislative Control

4.9 The main requirement with respect to odour control from premises not controlled under the Environmental Permitting (England Wales) Regulations (2016) and subsequent amendments, such as non-intensive agricultural activities, 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."

4.10 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 operations are being controlled according to best practice means.

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

4.12 National Planning Policy

4.13 The revised National Planning Policy Framework (NPPF), Reference 2, was published in December 2024 and sets out the Government's planning policies for England and how these are expected to be applied.

4.14 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."

4.15 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 and community cohesions and resilience."

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

4.17 Local Planning Policy

4.18 The Kirklees Local Plan, Reference 3, was adopted by KC on 27th February 2019. A review of the document indicated the following policy of relevance to this assessment:

"Policy LP52

Protection and improvement of environmental quality

Proposals which have the potential to increase pollution from noise, vibration, light, dust, odour, shadow flicker, chemicals and other forms of pollution or to increase pollution to soil or where environmentally sensitive development would be subject to significant levels of pollution, must be accompanied by evidence to show that the impacts have been evaluated and measures have been incorporated to prevent or reduce the pollution, so as to ensure it does not reduce the quality of life and well-being of people to an unacceptable level or have unacceptable impacts on the environment.

Such development which cannot incorporate suitable and sustainable mitigation measures which reduce pollution levels to an acceptable level to protect the quality of life and well-being of people or protect the environment will not be permitted.

Where possible, all new development should improve the existing environment."

4.19 The above policy was taken into consideration throughout the assessment.

4.20 Institute of Air Quality Management Guidance

4.21 The IAQM published the 'Guidance on the Assessment of Odour for Planning' document, Reference 4, on 20th May 2014. This was updated in 2018, Reference 1, 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 throughout this report where relevant.

5 Baseline

5.1 Introduction

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

5.3 Site Description

5.4 The proposed development is located within the small village of Hade Edge, within a predominately rural setting. The site is bordered to the north and west by residential properties and to the south and east by agricultural fields. Flowery Field Farm, a turkey rearing facility, is located approximately 30m south-east of the development site.

5.5 Potential Odour Sources

5.6 Desk-Top Study

5.7 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 findings are summarised in Table 1.

Source	Distance from Site (m)	Direction from Site	Description of Activities	Potential Odours
Flowery Fields Farm	30	South-east	Turkey rearing	Odours associated with turkey rearing operations

Table 1: Potential Odour Sources

5.8 As shown in Table 1, there is one potential odour source within the vicinity of the site. Reference should be made to Figure 3 for a map showing the source locations.

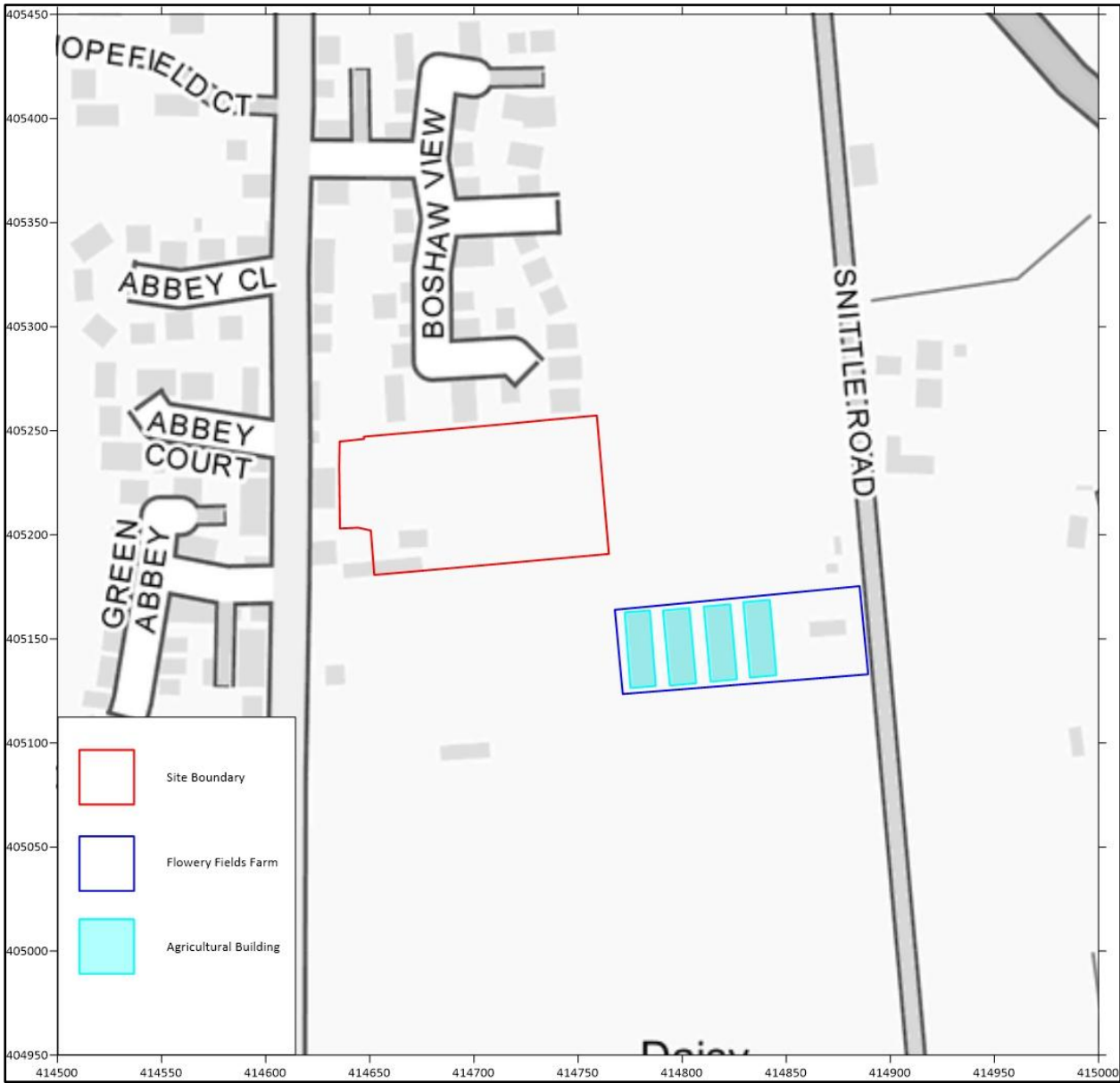


Figure 3: Potential Source Location

5.9 Site Visit

5.10 A site visit was undertaken on 6th February 2025 to visually assess and further investigate the potential odour sources identified in Table 1. A summary of the findings is provided in Table 2.

Location	Potential Odour Sources
Flowery Field Farms	There are four buildings on site. These are likely to be used for the storage of agricultural equipment and the rearing of turkeys. The houses are ventilated via roof mounted capped fans and side inlets. As such, there may be the potential for odour emissions from the fans during operation

Table 2: Potential Odour Sources

5.11 Meteorological Conditions

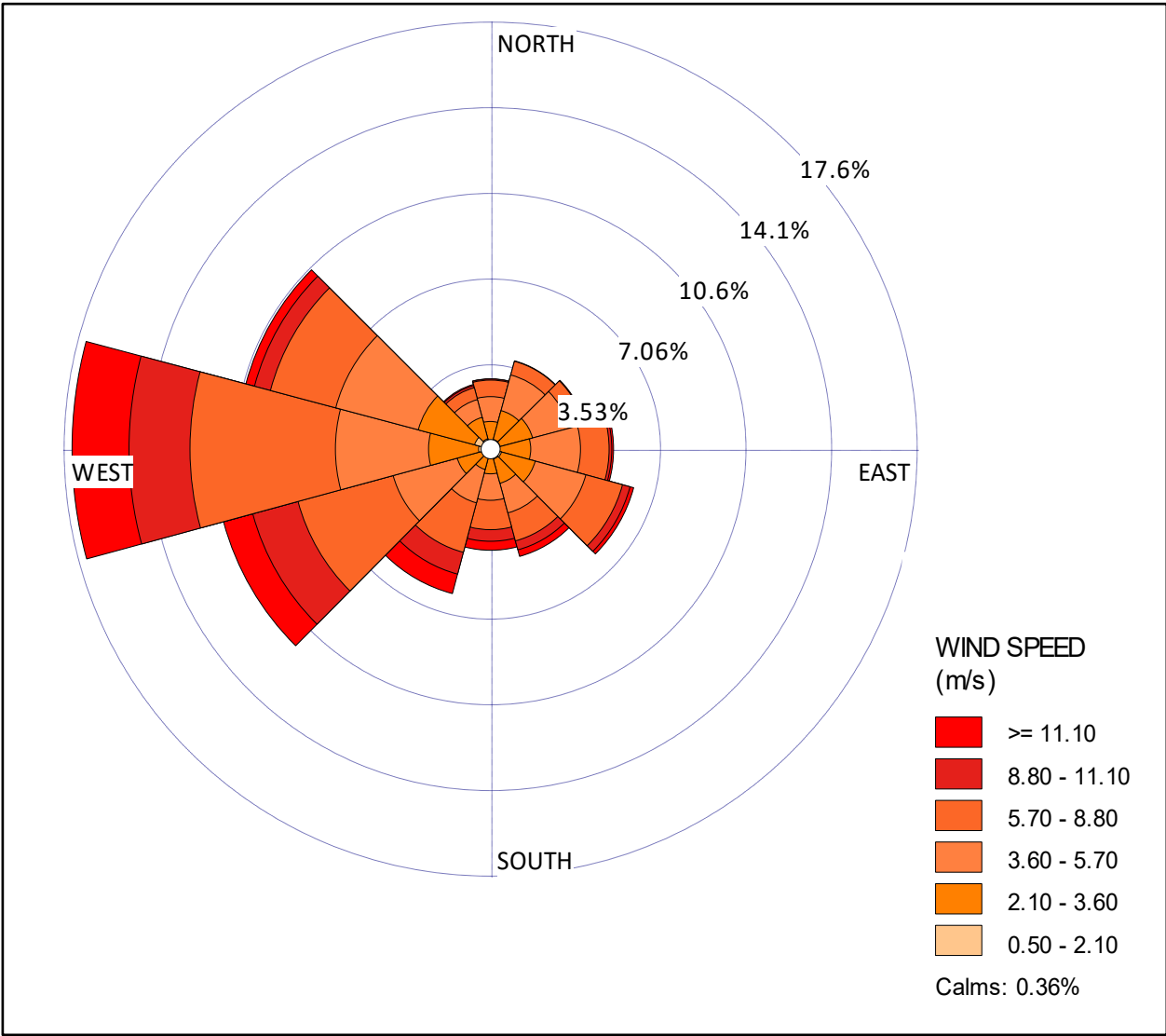
5.12 The potential for atmospheric conditions to impact at sensitive locations depends significantly on the meteorology, particularly wind direction, during release. In order to consider prevailing conditions at the site, review of historical weather data was undertaken. Meteorological data used in the assessment was taken from Emley Moor Meteorological Station at NGR: 422297, 412887, which is approximately 10.8km north-east of the development. 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.

5.13 Meteorological data was obtained from Emley Moor Meteorological Station over the period 1st January 2017 to 31st December 2021 (inclusive). This is summarised in Table 3. Reference should be made to Figure 4 for a wind rose of the meteorological data.

Wind Direction (°)	Frequency of Wind (%)
345 - 15	2.94
15 - 45	3.81
45 - 75	4.07
75 - 105	5.11
105 - 135	6.15
135 - 165	4.63
165 - 195	4.22
195 - 225	6.20
225 - 255	11.44
255 - 285	17.28
285 - 315	10.47
315 - 345	2.79
Sub-Total	79.11
Calms	0.36
Missing/Incomplete	20.54

Table 3: Wind Frequency Data

- 5.14 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.
- 5.15 As shown in Table 3, the prevailing wind direction at the site is from the west. Winds from the north and north-east are relatively infrequent.



6 Methodology

6.1 Introduction

6.2 The development has the potential to expose future residents to any existing odour issues at the site. An Odour Assessment has therefore been undertaken in accordance with the IAQM 'Guidance on the Assessment of odour for Planning' document, Reference 1, as summarised in the following Sections.

6.3 Field Odour Surveys

6.4 Background

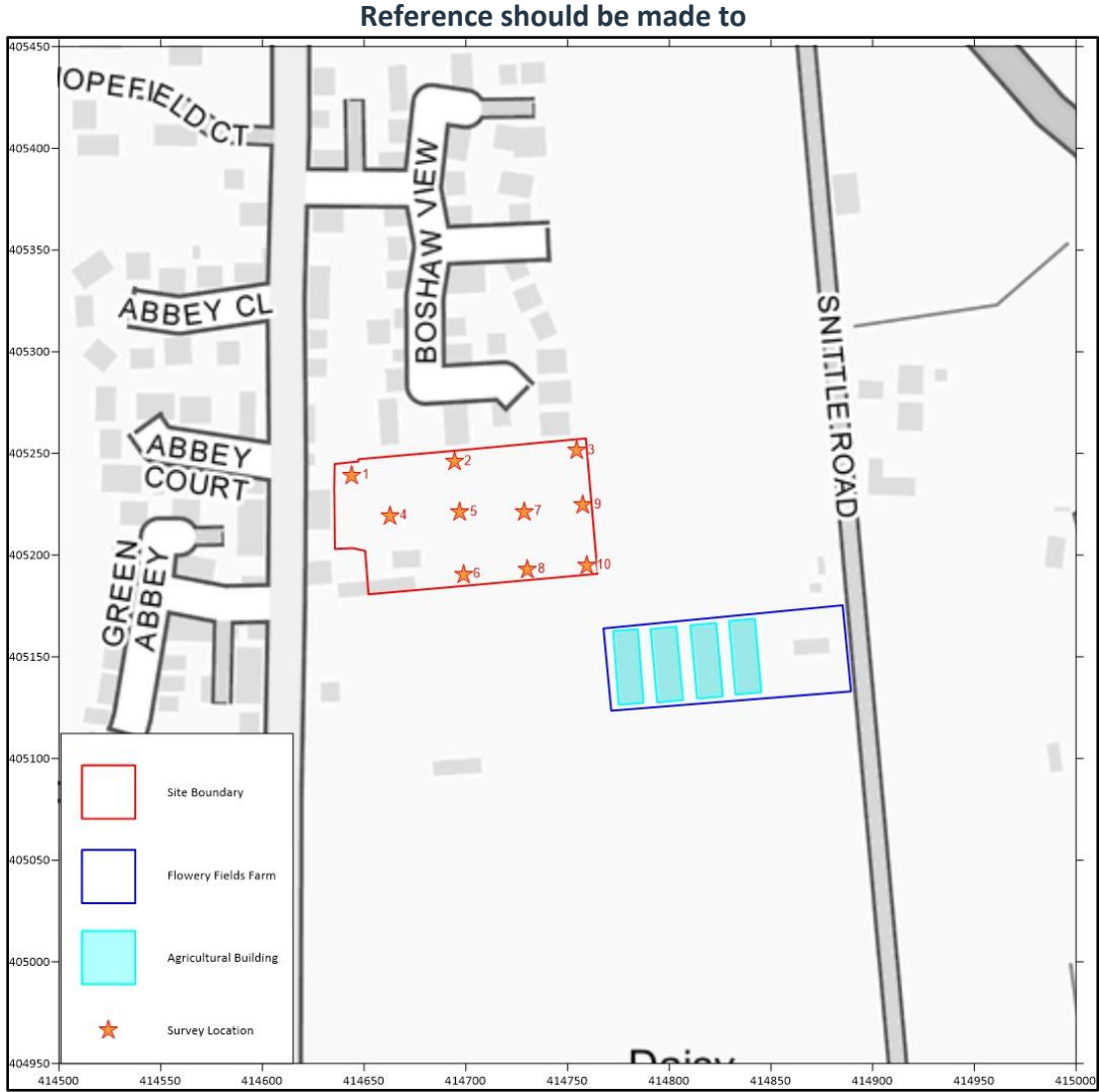
6.5 An adverse effect of odour exposure, such as annoyance or loss of amenity, is subjective and is not something that can be wholly defined or assessed by scientific methods alone. An assessment can therefore be strengthened by including a subjective assessment of prevailing odour conditions by those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

6.6 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 experience 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.

6.7 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.

6.8 Field Odour Survey Procedure

6.9 Sensory tests were carried out a number of survey locations on 6th February 2025, 19th February 2025 and 19th March 2025. Ten survey positions for each site visit were chosen to provide an indication of conditions throughout the development site.



6.10 Figure 5 for a map of the monitoring positions.

6.11 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.
- 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, $t_{\geq 4}$, 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.

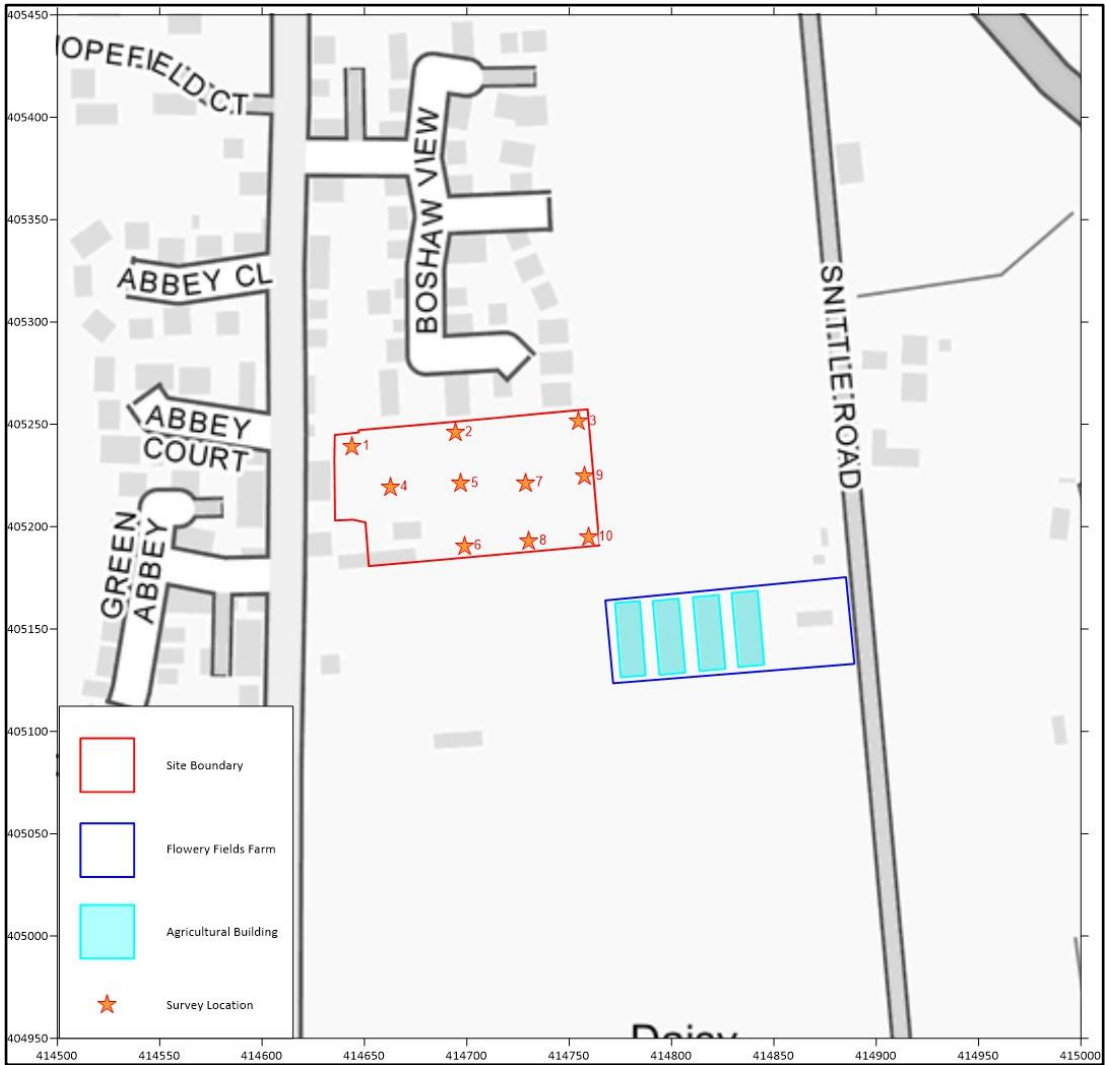


Figure 5: Monitoring Positions

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

Table 4: Odour Intensity Scale

6.12 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 confectionary 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.

6.13 *Odour Exposure*

6.14 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.

Average Intensity (I_{mean})	Percentage Odour Time ($t_{I \geq 4}$)				
	<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

Table 5: Odour Exposure

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

6.16 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 to be considered **negligible**; and,
- If $I_{mean} = 1$, but $t_{I \geq 4} = 0\%$, then the odour effect can for practical purposes be considered negligible.

6.17 *Significance of Odour Effect*

6.18 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.

Sensitivity	Description
High	Surrounding land use 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 use 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; and, • People 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 use 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

Table 6: Odour Receptor Sensitivity

6.19 The assessment matrix is provided in Table 7.

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
Negligible	Negligible	Negligible	Negligible

Table 7: Odour Effect Significance

6.20 Risk Assessment

6.21 Background

6.22 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.

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

Effect = Dose x Response

6.24 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.

6.25 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.

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

6.27 Risk Assessment Procedure

6.28 The first step in the assessment was 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.

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

Sensitivity	Description
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 [5]; 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 thousand 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 [5] 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 [5]; 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

Table 8: Source Odour Potential

6.30 The next step was 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.

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

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
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 roofs vents greater than 3m above ridge height) and are not compromised by surrounding buildings

Table 9: Pathway Effectiveness

6.32 The sensitivity of the receiving receptor was defined based on the criteria shown in Table 6.

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

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

Table 10: Risk of Odour Exposure

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

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

Table 11: Significance of Odour Effect

6.35 **Overall Odour Significance**

6.36 Following completion of the Field Odour Surveys and Risk Assessment, the IAQM guidance 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.

6.37 The IAQM guidance recognises that assessment of odour requires some degree of professional judgement [1]. 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 throughout the assessment.

7 Results

7.1 Field Odour Surveys

7.2 Field Odour Survey 1

7.3 Field Odour Survey 1 was undertaken between 08:22 and 09:25 on 6th February 2025. The results are summarised in Table 12.

Position	t _{I≥4}	I _{mean}	I _{max}	Unpleasantness	Odour Description	Notes
1	0	1	3	Neutral	Agricultural, manure	-
2	0	1	2	-	Agricultural	-
3	0	1	2	-	Agricultural, burning	-
4	0	1	2	-	Agricultural	-
5	0	1	3	Neutral	Agricultural, poultry litter	-
6	0	1	2	-	Agricultural, vegetation, manure	-
7	0	0	1	-	-	-
8	0	0	1	-	-	-
9	0	1	3	Neutral	Agricultural, poultry litter, wood, vegetation	-
10	0	1	2	-	Agricultural, vegetation	-

Table 12: Field Odour Survey 1 - Results

7.4 The meteorological conditions during the monitoring were dry and clear with temperatures between 0°C and 1°C. The wind direction was from the south-east throughout the survey. The wind speed rated 1 on the Beaufort scale.

7.5 Field Odour Survey 2

7.6 Field Odour Survey 2 was undertaken between 09:32 and 10:27 on 19th February 2025. The results are summarised in Table 13.

Position	t _{I≥4}	I _{mean}	I _{max}	Unpleasantness	Odour Description	Notes
1	0	0	1	-	-	-
2	0	0	1	-	-	-
3	0	0	2	-	Agricultural	-

Position	t _{I≥4}	I _{mean}	I _{max}	Unpleasantness	Odour Description	Notes
4	0	1	2	-	Agricultural	-
5	0	1	1	-	-	-
6	0	1	2	-	Agricultural	-
7	0	1	2	-	Agricultural, manure	-
8	0	1	2	-	Agricultural	-
9	0	1	2	-	Agricultural, vegetation	-
10	0	1	2	-	Agricultural, vegetation	-

Table 13: Field Odour Survey 2 - Results

7.7 The meteorological conditions during the monitoring were dry and overcast with temperatures between 1°C and 2 °C. The wind direction was from the south-east throughout the survey. The wind speed rated between 3 and 5 on the Beaufort scale.

7.8 Field Odour Survey 3

7.9 Field Odour Survey 3 was undertaken between 12:27 and 13:23 on 19th March 2025. The results are summarised in Table 14.

Position	t _{I≥4}	I _{mean}	I _{max}	Unpleasantness	Odour Description	Notes
1	0	1	2	-	Burning	-
2	0	1	2	-	Agricultural	-
3	0	1	2	-	Vegetation	-
4	0	1	2	-	Agricultural, burning	-
5	0	1	3	Neutral	Agricultural	-
6	0	1	2	-	Agricultural	-
7	0	1	2	-	Agricultural	-
8	0	1	2	-	Agricultural	-
9	3	1	4	Neutral	Agricultural, poultry litter	-
10	3	2	4	Neutral	Agricultural, poultry litter	-

Table 14: Field Odour Survey 3 - Results

7.10 The meteorological conditions during the monitoring were dry and clear with temperatures between 9°C and 10°C. The wind direction was from the south-south-east throughout the survey. The wind speed rated between 1 and 4 on the Beaufort scale.

7.11 *Odour Exposure and Significance*

7.12 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 risk greater than negligible is shown in **bold**.

Position	Odour Exposure		
	Field Odour Survey 1	Field Odour Survey 2	Field Odour Survey 3
1	Negligible	Negligible	Negligible
2	Negligible	Negligible	Negligible
3	Negligible	Negligible	Negligible
4	Negligible	Negligible	Negligible
5	Negligible	Negligible	Negligible
6	Negligible	Negligible	Negligible
7	Negligible	Negligible	Negligible
8	Negligible	Negligible	Negligible
9	Negligible	Negligible	Small
10	Negligible	Negligible	Small

Table 15: Field Odour Surveys - Odour Exposure Risk

7.13 As shown in Table 15, the odour exposure was **negligible** at all locations during Survey 1 and 2. Impacts were **negligible** at eight locations and **small** at two positions during Survey 3.

7.14 It should be noted that impacts relate to all odours detected as well as those thought to be associated with the identified sources.

7.15 The significance of the odour impact at each location was determined in accordance with the criteria outlined in Table 7. The proposed development includes residential units and is therefore considered to be of **high** sensitivity.

7.16 The significance of the odour exposure results for the Field Odour Surveys is summarised in Table 16. Any significance greater than negligible is shown in **bold**.

Position	Odour Significance		
	Field Odour Survey 1	Field Odour Survey 2	Field Odour Survey 3
1	Negligible	Negligible	Negligible
2	Negligible	Negligible	Negligible
3	Negligible	Negligible	Negligible
4	Negligible	Negligible	Negligible
5	Negligible	Negligible	Negligible
6	Negligible	Negligible	Negligible
7	Negligible	Negligible	Negligible
8	Negligible	Negligible	Negligible
9	Negligible	Negligible	Slight
10	Negligible	Negligible	Slight

Table 16: Field Odour Surveys - Odour Significance

7.17 As shown in Table 16, impacts were **negligible** at all locations during Survey 1 and 2. Impacts were **negligible** at eight locations and **slight** at two positions during Survey 3.

7.18 Reference should be made to Figure 6 for a graphical representation of the findings.



Figure 6: Field Odour Survey Results

7.19 Risk Assessment

7.20 The odour risk at the development location was assessed in accordance with the IAQM methodology. The first step was to classify the Source Odour Potential of the identified source.

7.21 The Source Odour Potential of Flowery Fields Farm was classified as **medium** due to the following:

- Activities at the premises are not controlled under the Environmental Permitting (England and Wales) Regulations 2016;
- Odours associated with agricultural operations would be considered moderately offensive' in accordance with EA Guidance H4[5]; and,
- Odour emission from the agricultural activities are likely to be mostly contained within the farm buildings, however there is potential for releases from the roof mounted fans during operation.

7.22 The pathway effectiveness was subsequently defined based on the separation distance between the development and Flowery Fields Farm, the prevailing meteorological conditions and the emission dispersion arrangements. This was defined as **moderately effective** due to the following:

- The proposed development is local to the source, approximately 30m north-west of the farm;
- The development is neither upwind or downwind of the farm with respect to prevailing meteorological conditions; and,
- Agricultural activities are undertaken within buildings. Releases are elevated above the ridge of the buildings though may be comprised by the capped nature of the fans.

7.23 The source odour potential, pathway effectiveness and receptor sensitivity were combined to assess potential impacts at the proposed development. This is summarised in Table 17.

Source	Source Odour Potential	Pathway Effectiveness	Exposure Risk	Receptor Sensitivity	Effect Significance
Flowery Fields Farm	Medium	Moderately effective	Low	High	Slight

Table 17: Risk Assessment

7.24 As shown in Table 17, the predicted effect significance was **slight** as a result of releases from Flowery Fields Farm.

8 Discussion

8.1 Field Odour Surveys

8.2 As shown in Table 12 to Table 14, a range of odours were detected during the Field Odour Surveys. Some of these odours resulted in impacts at survey locations. This is discussed in the following Section.

8.3 Odours associated with agriculture including manure and poultry litter were detected during all Field Odour Surveys. These resulted in **slight** impacts at locations 9 and 10 during Survey 3. The odours resulted in **negligible** impacts at other locations during all other monitoring periods.

8.4 As shown in Section 7.1 above, low wind speeds were experienced during Surveys 1 and 3. These can contribute to poor dispersion and dilution of emissions. In addition, the positions were downwind of Flowery Fields Farm during all three surveys. Consequently, the results can be considered a robust representation of odour conditions at the development site during worst case conditions.

8.5 Risk Assessment

8.6 The Odour Risk Assessment indicated that the predicted odour effect significance was **slight** as a result of releases from Flowery Fields Farm. This is due to the distance between the sources and the proposed development, as well as the pathway effectiveness.

8.7 This is consistent with the findings of the Field Odour Surveys which indicated maximum potential impact of **slight** as a result of emissions from Flowery Fields Farm. As such, it is considered to provide a robust assessment of potential impacts as a result of emissions from the identified source.

8.8 Summary

8.9 Three Field Odour Surveys were undertaken across the site in accordance with the IAQM methodology. The results indicated odour impacts ranging from **negligible** and **small**. This is predicted to result in effects of **negligible** and **slight** at the proposed development.

8.10 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 the emissions from Flowery Fields Farm.

8.11 The IAQM guidance [1] states that only if the impact is **moderate** or **substantial**, the effect is considered **significant**. As such, the overall effects of odour on the proposed development as a result of emissions from Flowery Fields Farm are considered **not significant**, in accordance with the stated guidance.

9 Conclusion

9.1 This report has been prepared in support of a planning application for a proposed residential development on land off Dunford Road, Hade Edge, Kirklees.

9.2 The proposal is located within the vicinity of Flowery Fields Farm, a turkey rearing facility. This has the potential to produce odour emissions during normal operation which may lead to reduced amenity for future residents of the development. A two-staged Odour Assessment was therefore undertaken to determine baseline conditions at the site and consider its suitability for the proposed end-use.

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

9.4 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** at the proposed site.

9.5 In accordance with the stated guidance, the overall odour effects on the site are considered to be **not significant**. As such, odour emissions from Flowery Fields Farm are not considered to represent a constraint to planning consent for the proposals.

10 References

- 1 Guidance for the Assessment of Odour for Planning v1.1, IAQM, 2018.
- 2 NPPF, Ministry of Housing, Communities and Local Government, 2024.
- 3 Kirklees Local Plan, KC, 2019.
- 4 Guidance for the Assessment of Odour for Planning, IAQM, 2014.
- 5 H4: Odour Management, EA, 2011.