

ODOUR ASSESSMENT GUIDANCE

2024



Winchester
City Council

CONTENTS

Odour Assessments for Planning Applications	1
Introduction	2
Odour Assessments	3
Content of Odour Assessments	4
Commercial Kitchens	5
Intensive Farming	8
Odour Management Plans	9
Other Odour-Generating Developments	10
Sewage Treatment Plant	11
Industrial Processes	12
Paint Spraying	12

If you would like to receive this document in another format please contact Winchester City Council's Customer Service Centre on 01962 840 222 to discuss your requirements. Alternatively, you can request this information online.



1. ODOUR ASSESSMENTS FOR PLANNING APPLICATIONS

This guidance is designed to assist developers, agents, and their consultants where odour is a consideration for any proposed development. This could be where odour would be caused by the proposed development, or the proposed development would be exposed to odour from existing sources.

This guidance seeks to ensure that any odour assessment and subsequent report meets the council's expectations. If the advice made in this guidance is followed, it should avoid situations which cause decisions on planning applications to be delayed, or refused because inadequate information has been provided in support of a proposal.

It is recommended that the developer liaise with the council in the early stages of the planning process. Pre-application discussions can be very useful to determine the risk of odour being a significant consideration and to identify the supporting details likely to be required.

Prior to commencing any odour assessment, it is recommended that the consultant contact the Environmental Protection Team on **01962 848 097** or **eh@winchester.gov.uk** to agree the relevant assessment methodology and establish appropriate criteria to avoid unnecessary delay in the planning process.

2. INTRODUCTION

Exposure to odours, which are considered as unwanted or unpleasant, can cause annoyance or a nuisance to nearby receptors in much the same way as excessive noise or unwanted lighting. Exposure to unwanted odour for prolonged periods can detrimentally affect the well-being of individuals.

Odour can therefore be an important planning consideration. New proposals for odour-generating activities are likely to require an odour impact assessment to be submitted to accompany any planning application. Developments likely to generate unwanted odours include waste-handling, industrial processes, food production and farming activities. The local planning authority must consider whether a proposed development (an odour source itself or new receptors near to existing odour-generating processes) will be suitable.

Paragraph 193 of the National Planning Policy Framework states that new developments should be integrated effectively with existing businesses and should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or facility could have a significant adverse effect on new development, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed.

Ideally, significant sources of odour should be separated from odour-sensitive uses; failing this it may be possible to employ control and mitigation measures to ensure a proposed development is acceptable from a land-use perspective.



3. ODOUR ASSESSMENTS

Planning applications for odour-generating uses should include a full appraisal of the potential odour from the development. Odour assessments should identify all sources of potential odours, recognise the causes of odours, and assess the concentration and emission rates of the odours. Where sites have the potential to generate multiple odours, it is important to recognise and discriminate between the different sources to determine the impact of the odours and the relative effectiveness of any mitigation measures. Odour sources can vary in concentration, hedonic tone, and quality, even for the same source type.

Odour sources and their impacts are characterised by their sensory properties, i.e. threshold, intensity, hedonic tone, and quality, as well as their origin. Almost all these properties can be quantified or objectively assessed, but in the context of environmental management and impact assessments, odour concentration is the most recognised parameter.

Some industrial and waste activities will require an environmental permit to operate. Environmental permits regulate emissions from such activities and provide a mechanism to control and enforce against emissions, if necessary. National

planning guidance requires that the planning authority works on the assumption that such pollution control regimes will operate effectively; however, there may still be some instances where odour emissions would make a development an unsuitable use of land in its proposed location. For developments which will require an environmental permit it will therefore still be necessary for the local planning authority to determine at the planning stage whether the proposed development will be suitable considering the likely residual effects of odour on nearby sensitive users.

3.1. CONTENT OF ODOUR ASSESSMENTS

An assessment of the impact and resulting effects of an odour source will be required for certain developments. There is no single method of reliably measuring or assessing odour emissions and any report is best based on several factors.

The Environment Agency (EA) Environmental Permitting Guidance ([H4 Odour Management](#)) and the [Guidance on the assessment of odour](#) for planning produced by the Institute of Air Quality Management (IAQM) both recommend the 'FIDOL' as a method for assessing the degree of odour impact:

- Frequency of detection
- Intensity as perceived
- Duration of exposure
- Offensiveness
- Location/Receptor sensitivity

It is recommended that most odour assessments submitted to the city council follow the guidance produced by the IAQM.

It is expected that any assessment submitted will contain the following elements:

1. A description of existing baseline odour conditions.
2. The location of receptors and their relative sensitivities to odour effects.
3. Details of potential odour sources, including the activities and materials involved and the potential for odour generation.
4. A description of the control/mitigation measures proposed for the scheme.
5. Predictions of the likely odour impact and resulting effects at sensitive receptors, taking into account:
 - The magnitude of the odour
 - Meteorological characteristics of the area
 - Dispersion and dilution
 - Sensitivity of the receptors
 - Potential cumulative odour impacts
6. Where odour modelling has been used the report should contain all data to allow full interpretation.
7. Where odour effects are assessed as significant, details of further mitigation and control measures that could allow the proposals to proceed without causing loss of amenity.

3.1. CONTENT OF ODOUR ASSESSMENTS (CONTINUED)

8. An assessment of the residual odour impacts and their effects.
9. A conclusion on the significance of the residual odour effects.

Many odour mitigation and control methods will involve the use of mechanical ventilation which can introduce a new noise-source into the locality. Where noise is likely to become a planning consideration, the

applicant should also submit a noise impact assessment. Further details regarding noise assessments can be found in our Technical Noise Guidance at www.winchester.gov.uk/planning/other-guidance

4. COMMERCIAL KITCHENS

The vast majority of odour-generating developments within the Winchester City Council district are associated with food production. Problems associated with nuisance odour from commercial kitchen exhausts are very common, particularly in urban areas where housing may be adjacent to or immediately above catering premises.

There is no legislation directly governing the design and performance of commercial kitchen ventilation systems. However, other regulations protecting the health and safety of employees, food safety, fire safety and building control must be adhered to. As a result, there are numerous forms of guidance available relating to the design and performance of ventilation systems, including industry guidelines, British Standards, and guidance from

government departments.

The [EMAQ+/DEFRA Guidance on the 'Control of Odour and Noise from Commercial Kitchen Exhaust Systems 2018](#) is a comprehensive guide to commercial extraction systems and provides detailed examples of best practice. It is recommended that planning applications for kitchen exhaust systems consider the information provided in this guidance.

Kitchen ventilation systems can take many different forms. The design of a system should be dictated by the type of cooking carried out, the scale of the catering operation and the location of the exhaust system.

Odour emissions from kitchens arise from particles that are either too small to be trapped by coarse filtration or

4. COMMERCIAL KITCHENS (CONTINUED)

are present in the gas phase. The degree and type of odour control required is dictated by the size of the catering facility, the type of food prepared and the location of the premises. The greater the potential risk of causing harm to the amenity or causing a nuisance, the more effective the odour abatement must be. In certain circumstances where local planning requirements restrict the use of tall stacks more emphasis must be placed on odour abatement.

Most typical kitchen extract abatement will consist of a number of the following:

- Coarse or grease filtration
- Fine filtration
- Electrostatic precipitation
- Adsorption
- Wet scrubbing (absorption)
- Oxidation
- Odour neutralisation
- Dispersal (stack)

Not all types of odour abatement are suitable for all cooking methods.

Before submitting planning approval for kitchen ventilation, the applicant must provide sufficient information to demonstrate that that no nuisance, disturbance or loss of amenity will be caused by odour, fumes, or noise to nearby sensitive receptors.

A suitably qualified and experienced person with specialised knowledge of ventilation systems should undertake the design and installation of a ventilation system. In circumstances where the end user of the premises, or where the specific type of food to be cooked is unknown, the installation should be designed to achieve the highest levels of odour control to cater for a worst-case scenario.

To enable the local planning authority to assess the suitability of a ventilation scheme the following information should be provided:

1. Information on the premises, including type of food, number of covers, preparation methods, proposed hours of business and ventilation plant.

4. COMMERCIAL KITCHENS (CONTINUED)

2. Scaled plans showing internal arrangements and the dimensions/ location of the ventilation system. The location of all fans and filters must be marked.
3. Pre-filter details including the manufacturer, dimensions, nature of the filter media and maintenance requirements.
4. Other filters including the type of filter, manufacturer, dimensions, flow rates, number of filters and cleaning/maintenance requirements.
5. Extraction hood details showing the dimensions and velocity rates.
6. Flue design. The height and velocity of the final discharge are the most important factors, generally the greater the flue height the better the dispersal and dilution of odours. Discharge to air should ideally be 1m above the roof ridge height, particularly if there are buildings nearby that may affect odour dispersion and dilution. Where is this not possible addition techniques will be required to reduce odours, such as an increase in efflux velocity and additional filters etc. The final discharge should be vertically upwards, unimpeded by flue terminals. The number of bends in the ducting should be minimised and the ducting should have a smooth internal surface.
7. A noise report will usually be required. Further details can be

found at www.winchester.gov.uk/planning/other-guidance

8. A schedule of maintenance including details of cleaning washable filters, inspection and servicing frequencies, filter/media replacement frequencies.



5. INTENSIVE FARMING

Planning applications for intensive farming processes will need to be accompanied by an odour impact assessment. Intensive farming over certain thresholds for pig and poultry is regulated by the Environment Agency however farms operating below the threshold levels could still cause an impact to nearby sensitive receptors and will therefore also be required to demonstrate to the local planning authority that the proposals are suitable.

Odour sources from intensive farming are mainly found in livestock housing, manure and slurry and dust. The odour associated with housing tends to be related to ammonia and can occur where litter is in poor condition. Odour from manure/slurry tends to arise from the storage of this matter and the biological changes which occur as decomposition takes place. Odour can also arise when sheds are fumigated/cleaned. Dust emissions can be a significant source of odour if they are released through ventilation systems. Odorous compounds can also be found in bedding, feed, and the animals themselves.

The level of odour emissions from intensive livestock installations is dependent on numerous factors and each of these should be considered when submitting an odour assessment to accompany a planning application:

- Size of operation
- Type of building/ventilation
- Type of operation and rearing cycle
- The feeding regime
- Storage arrangements for manure and slurry
- Land spreading practices
- Operational management

The impact of those emissions on the local environment will depend upon the proximity of sensitive receptors, the local topography and prevalent weather conditions.

As odour is inherent with intensive farming operations, demonstrating best practice will be essential and a requirement to produce an odour management plan will be likely.



6. ODOUR MANAGEMENT PLANS

An odour management plan (OMP) is an operational plan detailing the measures to be employed by a site operator to control odour formation and releases from site. The OMP should show how odours are being managed and controlled to prevent or minimise the release of odours from site. In the case of a planning application, an OMP may help demonstrate commitment by the operator that they will employ best practice to control odours from the future operation of the process.

The levels of complexity required of an OMP will be dependent on the process and potential impact of the odour on neighbouring premises. Where a process may produce particularly offensive odours, the OMP should be detailed and thorough.

The OMP should address the management of odours at each stage of potential odour exposure and include the following aspects:

- Identification of sources of odours on site and their location.
- Control measures employed on the site, including odour abatement systems and techniques.
- Management procedures, including the roles and responsibilities of site personnel and procedures for materials handling, storage, and use of equipment.
- Repair and maintenance of plant and equipment should be undertaken in accordance with manufacturer's instructions. The availability of equipment and spares should be considered.
- Odour monitoring should be detailed including where, when, and how. Monitoring may include emissions testing, surveys, and complaints.
- Communication with relevant interested parties.
- Emergency and incident response procedures. This should consider the potential for odour emissions being released in a variety of scenarios, such as breakdown of equipment, spillages, extreme weather etc. Remedial actions to minimise the impacts should be detailed.
- Staff training in relation to minimising odour emissions and dealing with complaints and emergencies.
- Identification of receptors. It is essential to understand the area of influence and where receptors may be impacted.
- Record keeping. Accurate and thorough record keeping of plant maintenance, monitoring, complaints, training etc.

The OMP should be regarded as a

6. ODOUR MANAGEMENT PLANS (CONTINUED)

'live' document which is reviewed, updated, and informed by the ongoing operation of the process. The plan should allow the anticipation of problems as well as recognising the routine requirements of odour control processes. Detailing all the factors involved when odour is emitted can provide the basis for improved intervention. Where investment decisions need to be made regarding odour abatement, the OMP can be useful in making choices.

7. OTHER ODOUR-GENERATING DEVELOPMENTS

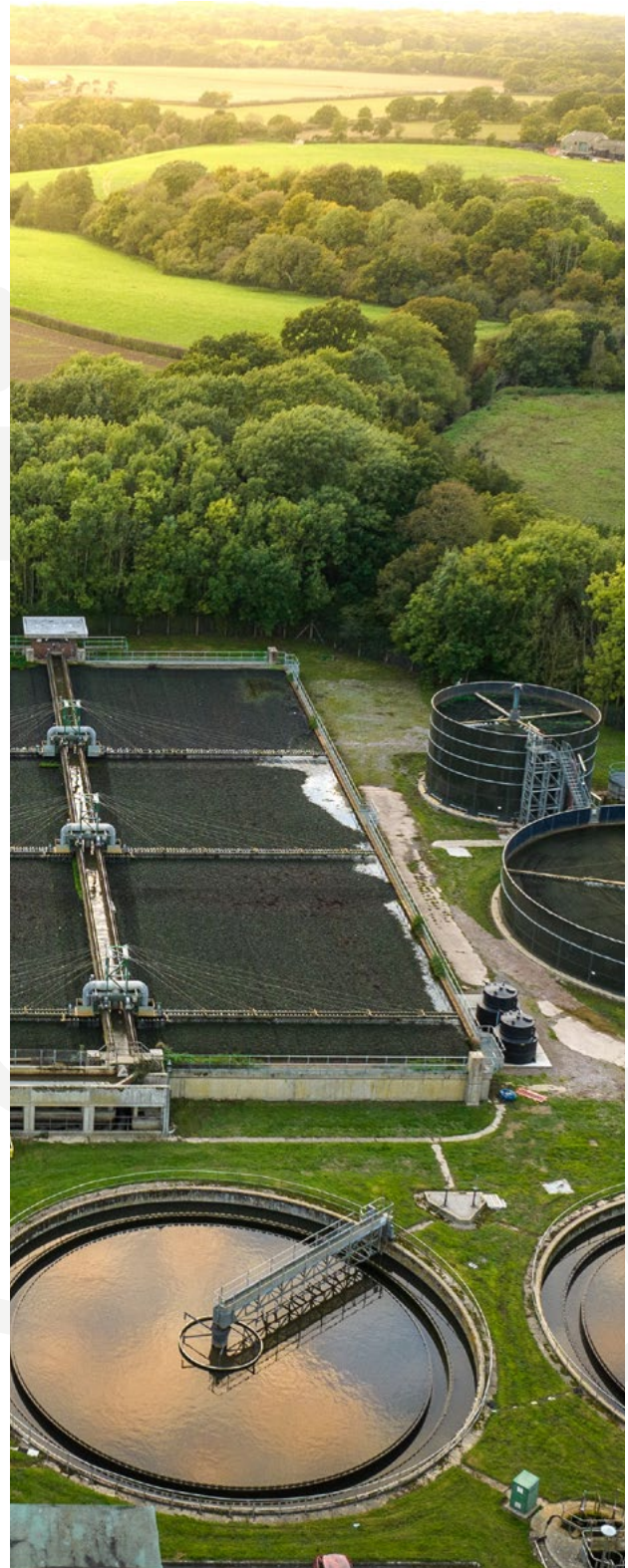
Although the majority of odour-generating applications within the district are likely to be related to agricultural and catering activities, there will be circumstances where odour assessments are likely to be required for other applications. These can include (but are not limited to) the following.

7.1. SEWAGE TREATMENT PLANTS

It is widely acknowledged that the prospect of zero odour from sewage treatment plant is an unrealistic expectation. Planning controls should ensure that new sewage treatment works are not located too close to residential or other odour-sensitive users and should also protect existing sewage treatment works from new development encroaching too close, leading to odour complaints.

New sewage treatment works should be designed to minimise odour emissions by:

- Locating major odour sources away from sensitive receptors
- Design and operation of the process steps to minimise odour, including:
 - Minimising sludge retention times
 - Applying extended aeration to avoid primary settlement
 - Covering plant
 - The production and continued adherence to an OMP, including maintenance, good housekeeping, and emergency breakdown response.



7.2. INDUSTRIAL PROCESSES

Most odour-generating industrial processes will require a permit from either the local authority or the Environment Agency to operate. Applications for new industrial processes will often apply for planning permission and an industrial permit at the same time. The approval of a permit should not necessarily lead to the grant of planning permission and vice versa, both applications should be judged on their own merits. National planning guidance requires that the planning authority works on the assumption that such pollution control regimes will operate effectively; however, there may still be some instances where odour emissions would make a development an unsuitable use of land in its proposed location.

7.3. PAINT SPRAYING

Paint sprayers require a permit to operate if certain thresholds are met (using more than 1 tonne of solvent over a 12-month period). Applications for new paint spraying activities which fall below the threshold to require a permit will have to demonstrate that they will not cause unacceptable odour to any nearby sensitive users. Applications for new developments should ensure that odours are appropriately vented away from nearby receptors and that appropriate means of abatement technology are employed. It is expected that all new paint spraying activities will take place in a spray booth designed to meet sector-standard emission limits.





Winchester
City Council