



Odour Assessment for Proposed Conversion of a Barn to Residential Development at, Evenwood, 10 Lacon Holdings, Soulton Road, Soulton.

Prepared for:

Mr And Ms Smyth
C/O Evenwood,
10 Lacon Holdings,
Soulton Road,
Soulton

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Contents

1. Introduction	3
Site Location and Context	3
2. Policy and Guidance.....	4
3. The Proposal	5
4. Potential Odour Sources	5
Other Odour Sources	5
Weather	6
5. Potential Impact on the development site	6
6. Control Measures.....	7
7. Conclusion.....	8
Figure 1 – Aerial Photograph	9
Appendix A – Weather Data	10



1. Introduction

1.1. Martin Environmental Solutions has been commissioned to undertake an odour assessment to support a planning application for the conversion of a redundant barn at Evenwood, 10 Lacon Holdings, Soulton Road, Soulton to residential accommodation.

Site Location and Context

1.2. The development site is situated to the west of Evenwood and east of Cefnog Farm, the farm contains several open barns containing cattle along the boundary with the development site. to the north the road and to the south open fields.

1.3. An aerial Photograph is enclosed in Figure 1.

1.4. Concerns have been raised by the Council over the potential impact of odour (and noise) from the farm on the proposed development site and the future occupants, and hence the reason for this assessment and report.



2. Policy and Guidance

- 2.1. The Government sets out its policy in relation to planning in the National Planning Policy Framework (NPPF). The NPPF states that planning policies and decisions should “preventing new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability”; and “In preparing plans to meet development needs, the aim should be to minimise pollution and other adverse effects on the local and natural environment”
- 2.2. While Odour is not specifically mentioned in is implied by the above and the Planning Practice Guidance (PPG) note issued by the government on Air Quality states “odour and dust can also be a planning concern, for example, because of the effects on local amenity” it continues to state, “mitigation options where necessary, will depend on the proposed development and should be proportionate to the likely impact”.
- 2.3. Before an odour can be present an adverse effect, there must be exposure to the odour and therefore a source, a pathway, and a receptor without these three links no exposure can occur. In the case of this application the source is the new farm building. The pathway is the air, and the receptor are the occupants of the nearby existing dwellings.
- 2.4. In assessing the impact of odour on or from a development the scale of the exposure and therefore impact is determined by the parameters collectively known as the FIDO factors (Frequency, Intensity, Duration and Offensiveness) In addition the sensitivity of the receptor (location) will determine the magnitude of the exposure.
- 2.5. In addition, certain odours from industry, commercial sources may be identified as a statutory nuisance under the Environmental Protection Act 1990.



3. The Proposal

- 3.1 The proposed development will see the existing horse-shoe shaped barn converted into a residential dwelling. The rear wall facing the farm is to be a solid cavity brick wall, with two windows into the kitchen. The south end is to have a large window overlooking the fields into the lounge. The rest of the property has windows looking over the central courtyard area.
- 3.2 The site currently has a 1.5m high concrete precast panel wall along the boundary with the farm and it has been confirmed that this barrier will be increased in height to a recommended 2.5m with windows fitted to habitable rooms to have trickle ventilators to protect the internal environment from adverse noise levels.

4 Potential Odour Sources

- 4.1 The main potential odour source identified is the adjacent farm buildings used at times to house cattle. Generally during the spring and summer months the cattle area free to graze in the fields and rarely use the barns but they are used during the winter months to house them.
- 4.2 'Farmyards' exist between the buildings which are also in use by the cattle.
- 4.3 They are no silage storage on the farm with waste being regularly removed.
- 4.4 The design of the buildings facilitates odour prevention. Good ventilation within buildings in order to remove excess heat, water vapour, supply fresh air, and to prevent the growth of microorganisms are maintained. All of which are known to help prevent the generation of odourous emissions¹.

Other Odour Sources

- 4.5 The surrounding fields are already used for the grazing of sheep and cattle, and in the wider area muck spreading occurs over the fields which can when it occurs result in significant odour releases.

¹ <https://ahdb.org.uk/knowledge-library/dairy-housing-ventilation>



Weather

- 4.6 Prevailing wind direction in the area is south-westerly identified from the nearby Shrewsbury weather stations, Appendix A. This would take any odours originating at the farm away from the development site.
- 4.7 Although during the site visit there was a slight easterly wind, which would draw odours towards the property. However no significant odours were identified during the day.

5 Potential Impact on the development site

- 5.1 To ascertain the potential impact from odour the IAQM guidance document details the FIDOL parameters to help determine the impact:

Frequency
Intensity
Duration
Offensiveness
Location

- 5.2 Animals could potentially be housed throughout the year.
- 5.3 The potential odours will not be significantly intense, as control measures are in place to reduce odour generation and soiled bedding is to be removed.
- 5.4 The potential odours would only impact on the neighbouring properties if the wind were in the right direction and of a sufficient strength to carry odours to the properties without dispersion. The prevailing wind direction would result in the farm being upwind of the proposed development, taking odours away from the nearby sensitive properties.
- 5.5 The potential odours can be considered to be moderately offensive but are typical for the locality and the environment, and as such would be in line with those expected from time to time within the countryside and the surrounding area.
- 5.6 In conclusion, the adjacent farm has the potential to generate moderately offensive odours in the vicinity of the development. While the wind direction, and boundary barrier would generally prevent odours from migrating towards the development this would occasionally be possible.



- 5.7 While some odour can be considered acceptable within a rural area for example within garden amenity areas on occasion, odour perforation into the dwelling should be avoided.
- 5.8 The previously identified barrier along the boundary with the farm will assist in protecting the outside area, however additional measures are recommended to protect the internal environment.

6 Control Measures

- 6.1 The acoustic report submitted with the application has identified the need to fit standard double glazed window units to the property with additional trickle ventilation to allow them to remain closed.
- 6.2 In order to prevent odour entering the property it is proposed that an additional Positive Input Ventilation (PIV) system be incorporated along-side this glazing and ventilation specification.
- 6.3 This system will draw air from inside the roof spaces and forces it into the property creating a slight positive pressure. The air then escapes through the window ventilation units maintain a free flow of air and removing moisture from the property. The air inlet should be located towards the front, of the property away from the farmyard.
- 6.4 To prevent odours being drawn into the property the unit can be fitted with a suitable filtration system e.g. Carbon filter.
- 6.5 The units are affordable and cost efficient to run and can also be utilised to help regulate the temperature of the indoor environmental.



7 Conclusion

- 7.1 A consideration of the potential of odour impacting on the development has been undertaken. While no odour has been observed on site the potential for an adverse impact on the proposed development has been identified.
- 7.2 As such proposed mitigation measures are recommended to minimise the impact from the farm on the property and to ensure that in line with the National Planning Policy Framework no significant adverse impact is experienced.
- 7.3 These include the provision of a PIV system with filtration to the properties to prevent the ingress of odour.
- 7.4 As such the development will meet the objectives of the National Planning Policy Framework in ensuring that no significant adverse impact is experienced by the future residents. The development is therefore considered to be acceptable in terms of odour.

Figure 1 – Aerial Photograph





Appendix A – Weather Data

Shrewsbury Weather Station - windfinder.com



DOMINANT WIND DIRECTION

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SW	SW	SW	WSW	WSW	WSW	WSW	SW	WSW	SW	SW	SW

Monthly wind direction and strength distribution

