

Dust & bioaerosol Management Plan for Feltwell Farm Pig Unit (comprising Airfield Farm & Feltwell Farm)

The H1 environmental risk assessment submitted with an application to vary the permit for redevelopment of Feltwell Farm Pig Unit identified sources of dust and bioaerosols with potential to effect human health and cause annoyance, result of deposition on vegetation, cars, and clothing, and contribute to odour. Created and updated this dust and bioaerosol management plan (DMP) to support the overall environmental management system in place at Feltwell Fm. The overriding principle is to ensure day-to-day activities are carried out in accordance with the plan so there is no reasonable cause for annoyance to people outside the installation boundary. Significant pollution outside the boundary is not expected, operator has no record or recollections of any dust concerns or complaints and will continue to foster good relations with neighbours.

Used the AHDB Pork Model Template B3.58C2 Environmental Risk Assessment, Dust and Bioaerosols Management Plan to identify dust and bio-aerosol issues. Actions and contingency actions in this DMP are best available techniques (BAT) in accordance with Best Available Techniques (BAT) Reference Document 2017, and Environment Agency (2010) EPR 6.09 Sector Guidance Note; How to comply – Intensive Farming v2.

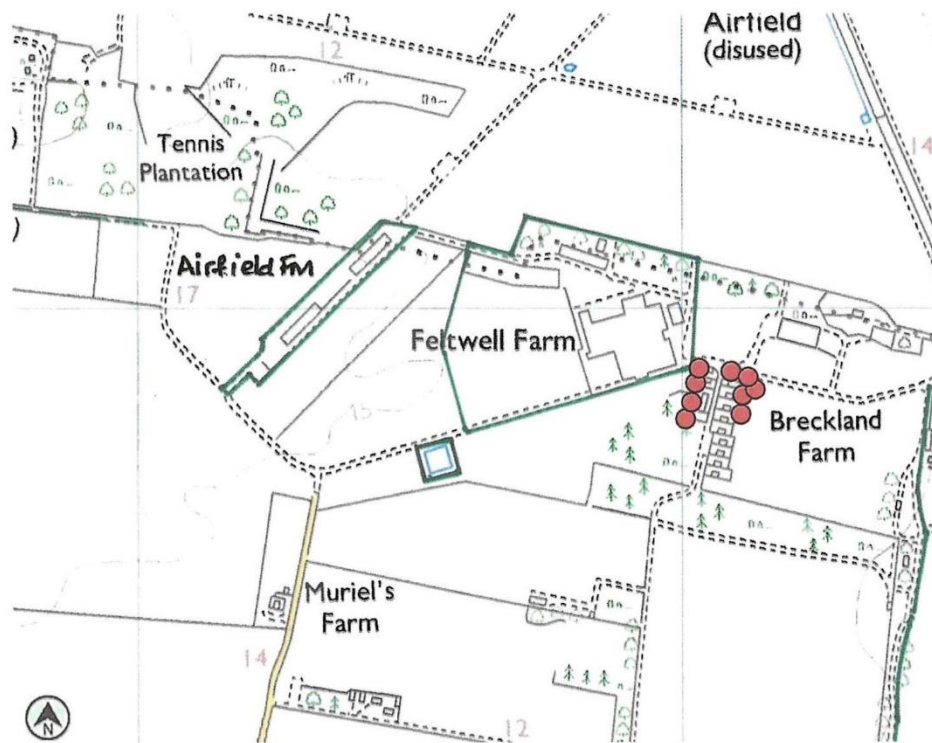
Identified receptor locations potentially sensitive to dust and bioaerosols within 100m of installation boundary from a site walkover and desk top study shown in Table 1 and Figure 1:-

Table 1. Feltwell Farm Pig Unit receptor locations within 100m

Nº.	Receptor	NGR	Direction	Distance from boundary
1	Residential - Feltwell Farm, Lodge Road, Feltwell, Thetford, IP26 4DU	TL 73050 92888	SSE	20m
2	Residential - Feltwell Farm, Lodge Road, Feltwell, Thetford, IP26 4DU	TL 73047 92870	SSE	30m
3	Residential - Feltwell Farm, Lodge Road, Feltwell, Thetford, IP26 4DU	TL 73046 92846	SSE	50m
4	Residential - Feltwell Farm, Lodge Road, Feltwell, Thetford, IP26 4DU	TL 73049 92849 TL 73035 92829	SSE	65m
5	Residential - Feltwell Farm, Lodge Road, Feltwell, Thetford, IP26 4DU	TL 73079 92861	SSE	60m
6	Residential - Feltwell Farm, Lodge Road, Feltwell, Thetford, IP26 4DU	TL 73085 92858	SSE	70m
7	Residential - Feltwell Farm, Lodge Road, Feltwell, Thetford, IP26 4DU	TL 73089 92856	SSE	75m
8	Residential - Feltwell Farm, Lodge Road, Feltwell, Thetford, IP26 4DU	TL 73078 92839	SSE	75m
9	Residential - Feltwell Farm, Lodge Road, Feltwell, Thetford, IP26 4DU	TL 73075 92820	SSE	90m

Distances measured on government website at magic.defra.gov.uk

Fig 1. Feltwell Fm Pig Unit receptor locations within 100m



Wind direction is defined as the direction from which the wind is blowing. According to the Met Office Eastern England Climate Report - as Atlantic depressions pass by the UK the wind typically starts to blow from the south or south-west, but later comes from the west or north-west as the depression moves away. Directions between south and north-west account for the majority of occasions and the strongest winds nearly always blow from this range. Averaged across the year the prevailing wind direction is from the southwest.

Residential dwellings likely have high sensitivity – reasonably expect enjoyment of a high level of amenity, and where people would reasonably be expected to be present continuously, or at least regularly for extended periods. However, will not be exposed to dust or bioaerosols for the majority of occasions.

The following table sets out:-

- Source of dust and bioaerosols from a typical intensive pig unit
- Actions taken at Feltwell Fm to prevent or minimise dust levels
- Contingency actions to limit exposure to elevated dust and bioaerosol emissions beyond the installation boundary.

Table 2. Routine actions and contingency actions to minimise dust & bio-aerosols and risks at Feltwell Farm Pig Unit

Dust & bio-aerosol related issue	Potential risks and problems	Actions to minimise dust and dust risks	Contingency actions to minimise dust and dust risks
Housing & management using straw flow system on solid floor	<ul style="list-style-type: none"> Type of bedding material Poor quality bedding material Application of bedding material 	<ul style="list-style-type: none"> Long straw rather than short straw. Long, barley straw in big bales preferred, subject to availability & cost. According to BAT conclusions wheat straw slightly more absorbent, but not as soft or palatable. Store straw undercover in barns keeps it clean and dry, prevent deterioration and waste. Straw of poor quality will release more airborne particles dusts, mould fungi. Associated with respiratory sensitisation in pigs and humans working inside houses. Farm manager monitoring quality, stock, and usage. Farm workers break bales inside house and drop into laying area after pushing out manure and old bedding, and after washout. Pigs push and distribute straw down the pens slope. 	<p><u>Trigger</u></p> <ul style="list-style-type: none"> Dusty, short straw <p><u>Timeframe for implementation</u></p> <ul style="list-style-type: none"> Immediate, same day. <p><u>Contingency action</u></p> <ul style="list-style-type: none"> Wet, mouldy, poor-quality straw not to be used, and supplier informed immediately. Better quality straw delivered as soon as possible. <p><u>Duration of action</u></p> <ul style="list-style-type: none"> Normally achievable within 1-2 days. <p><u>Cessation of action</u></p> <ul style="list-style-type: none"> Better quality straw delivered, less dusty.
Ventilation	<ul style="list-style-type: none"> Proteins and residues & risk of respiratory sensitisation for workers inside rearing house. Increasing ventilation will reduce airborne dust inside the house, but still exhausts dust to outside. 	<ul style="list-style-type: none"> Package high velocity forced ventilation system installed in pig house (vents greater than 5.5 metres high and fan efflux velocity greater than 7m/s) under equal pressure, designed by professional contractors. Supplies fresh air, removes excess heat, humidity, dust, gaseous substances including odour. Air inlet openings provided above solid Galebreaker curtains on side of houses and extraction fans on insulated roof. Maximised exhaust conditions to rapidly remove and disperse humidity, dust, ammonia, and odour by exhausting air above roof level through ridge, and maximised vertical velocity via extended & uncapped outlet chimneys. Dust will not settle on roofs or cause runoff to become contaminated. 	

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Dust & bio-aerosol related issue	Potential risks and problems	Actions to minimise dust and dust risks	Contingency actions to minimise dust and dust risks
		<ul style="list-style-type: none"> • Computer controlled ventilation continually adjusting to match age, weight, & health requirements of pigs. Programmed with manufacturers ventilation curves based on inside temperature, age of pigs and extraction rates so fans operate at 100%. Fans and inlet openings can be operated manually but only in extraordinary circumstances. • Access to fan controllers restricted to trained farm workers having demonstrated proper understanding of principles and operation of ventilation system. • Farm workers, company maintenance team, and professional contractors regularly check, maintain and repair buildings and equipment including ventilation systems in accordance with manufacturers recommendations and keep records. 	
Dust from washout	<ul style="list-style-type: none"> • General management 	<ul style="list-style-type: none"> • Farm workers washout house as soon as possible, normally within a day of destocking, not normally more than 3 days for example destocking on Friday and washout on Monday. Washout in as short a time as possible, in a day with two workers and pressure washers, depends on staff availability. • Washout, disinfect pens, drinkers, feeders, hard-to-reach high level ceiling, and clear dust from around vents. Use pressure washers reduce water use and slurry, pre-rinse first, reduce time, dust, and odour. • Gable end windbreakers kept closed after washout. 	

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Dust & bio-aerosol related issue	Potential risks and problems	Actions to minimise dust and dust risks	Contingency actions to minimise dust and dust risks
Dust from feed delivery	<ul style="list-style-type: none"> Form of feed Dust from silos Storage of feed Feed spillage 	<ul style="list-style-type: none"> No feed manufacturing, milling, or mixing onsite. Compound feedstuff in pellet form, minimises dust creation, waste & improve digestibility. Installed package feed storage silos, prevent feed getting wet and minimise dust, and odour Protected silos from collision damage by careful siting relative to traffic flows in between pig rearing houses keeping them out of path of HGVs and blow in feed over as short a distance as possible. Feed delivery vehicle always covered. Delivery monitored by driver and farm workers; any spillage cleared up immediately. Farm manager checks condition of feed silos monthly so damage, leaks identified quickly. Repair with farm workers, company maintenance team, or contractors and keep records. 	<p><u>Trigger</u></p> <ul style="list-style-type: none"> Spillage <p><u>Timeframe for implementation</u></p> <ul style="list-style-type: none"> Immediately/same day <p><u>Contingency action</u></p> <ul style="list-style-type: none"> Minor spillage judged <500kg cleared up into bags by drivers or farm workers and stored in secure place to prevent access from pests, odour, for offsite disposal. Spillage judged >500kg driver or farm workers contact feed mill immediately, to make vehicle and resource available to clear up and properly deliver into a silo to avoid waste if feed in a condition to be used. Wet or contaminated feed cleared up into bags or skip for disposal avoid pests, odour becoming an issue. Contact waste carrier to deliver collect skip same day or next day for offsite disposal. <p><u>Duration of action</u></p> <ul style="list-style-type: none"> Achievable same day. <p><u>Cessation of action</u></p> <ul style="list-style-type: none"> Spillage cleared up and delivered into a silo or secured in bags skip for offsite disposal.
Dust from feed equipment	<ul style="list-style-type: none"> Dust creation 	<ul style="list-style-type: none"> Package feed distribution systems including augers in sealed, flexible pipes and pig feeders minimises dust creation, waste, and related odour. Farm workers check for faults (augers running empty, spillage, squealing pigs) in walk through checks start of every day. 	

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Dust & bio-aerosol related issue	Potential risks and problems	Actions to minimise dust and dust risks	Contingency actions to minimise dust and dust risks
Monitoring		<ul style="list-style-type: none"> Farm Manager responsible for site tour every day including perimeter, check for any indication of abnormal elevated dust level with potential to cause annoyance offsite. 	<p><u>Trigger</u></p> <ul style="list-style-type: none"> Abnormal, extraordinary, elevated dust levels. <p><u>Timeframe for implementation</u></p> <ul style="list-style-type: none"> Immediate, same day. <p><u>Contingency action</u></p> <ul style="list-style-type: none"> Check routine and contingency actions to minimise dust and risks being adhered to. Inform people at receptor locations and anyone else likely to be seriously affected, what has been done or still needs to be done to reduce dust levels and duration with timescales. Continue checking at perimeter, until dust reduced and back to normal. <p><u>Duration of action</u></p> <ul style="list-style-type: none"> Normally achievable same day, next day. <p><u>Cessation of action</u></p> <ul style="list-style-type: none"> Dust reduced, back to normal onsite & offsite. Record events and actions in farm diary.
Complaint	<ul style="list-style-type: none"> Wind direction exposing receptors to dust. Receptor sensitivity likely to increase in warm weather when people want to enjoy their gardens and 	<ul style="list-style-type: none"> Farm Manager, Health, Safety, Environmental & Welfare Manager at Wayland Farms Ltd responsible for investigating any complaint reported by Agency, local authority, or the public. Investigate if alleged dust can be substantiated. Even if no longer apparent an investigation must still be carried out and recorded same day. Establish:- Time event occurred, duration, description of dust. Activities taking place onsite at time of complaint. Any dusty activities taking place offsite in vicinity. 	<p><u>Trigger</u></p> <ul style="list-style-type: none"> Complaint reported on Saturday or Sunday by email from Agency, local authority, not considered likely from anywhere else. <p><u>Timeframe for implementation</u></p> <ul style="list-style-type: none"> As soon as possible on opening email. <p><u>Contingency action</u></p> <ul style="list-style-type: none"> Investigate if alleged dust can be substantiated. Even if no longer apparent investigation must still be carried out and recorded same day, next day. Continue monitoring for dust.

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Dust & bio-aerosol related issue	Potential risks and problems	Actions to minimise dust and dust risks	Contingency actions to minimise dust and dust risks
	<ul style="list-style-type: none"> have windows open more. Slow response Elevated level of annoyance. 	<ul style="list-style-type: none"> Record details of investigation and action taken on dust complaint report. A copy must be sent to Health, Safety, Environmental & Welfare Manager at Wayland Farms Ltd immediately and must be retained onsite & available for future reference, or inspection with Agency. 	<ul style="list-style-type: none"> <u>Duration of action</u> Investigation likely achievable same day, next day. <u>Cessation of action</u> Notify Agency, local authority, complainant, anyone else likely to be seriously affected, same day as soon as possible result of investigation and corrective action or what still needs to be done with timescales.
Management plan review	<ul style="list-style-type: none"> Update with new issues, actions & contingency actions. 	<ul style="list-style-type: none"> Health, Safety, Environmental & Welfare Manager responsible for review annually. Updated sooner where a substantiated complaint results in making changes to related issues change in operating procedures, or any routine and contingency actions. 	

Change history	Date	Name
Last updated	02 August 2024	[REDACTED]
Last review	31 January 2023	[REDACTED]
Next review	30 January 2024	-
<p>02/08/24 Corrected grid refence for an existing receptor and identified 2no. additional sensitive receptors for bungalows in a terrace.</p> <p>31/05/24 Corrected the post codes for all the dwelling houses at Feltwell Fm.</p> <p>31/01/23 Updated NMP in orthodox template, added more noise related issues, actions and contingency actions in preparing to apply to vary permit for redevelopment of site, demolition of old buildings and erect new rearing houses, straw barn.</p>		

Dust Complaint Report

Date		
Reference number		
Name and address of complainant		
Telephone number of complainant		
Time and date of complaint		
Date, time, and duration of offending dust		
Weather conditions <i>(e.g., dry, rain, fog, snow)</i>		
Wind strength and direction <i>(e.g., light, steady, strong, gusting)</i>		
Callers' description of dust		
Has the caller any other comments about the offending dust?		
Any other previous known complaints relating to the installation (all aspects, not just dust)		
Any other relevant information		
Potential dust sources that could give rise to the complaint		
Operating conditions at the time offending dust occurred		
Actions taken		
Final outcome		
Complainant visited		
Complainant contacted with explanation Yes/No Date By whom		
Form completed by	Date:	Signed: