

## **ENVIRONMENTAL STATEMENT**

**REDEVELOPMENT OF EXISTING POULTRY FARM INCLUDING THE  
DEMOLITION OF 5 NO. POULTRY SHEDS AND 2 NO. STORAGE BARN  
FOLLOWED BY THE ERECTION OF 2 NO. REPLACEMENT POULTRY  
SHEDS TOGETHER WITH LINK CONTROL ROOMS, FEED BINS,  
CONCRETE APRON, WATER TANK, GAS TANKS, DIRTY WATER TANK  
AND A DRAINAGE ATTENUATION POND**

**AT THORESBY BRIDGE FARM, NORTH COTES, DN36 5TY**

**IVY FARM LTD**

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## **CHAPTER 1.**

### **INTRODUCTION**

- 1.1 This Environmental Statement has been commissioned by Ivy Farm Ltd to accompany a planning application for the redevelopment of a poultry unit at Thoresby Bridge Farm, North Cotes, DN36 5TY.
- 1.2 The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 provide for the submission of an Environmental Statement for certain types of development. The regulations prescribe the types of development for which EIA is mandatory (Schedule 1 Development). Regulation 17a provides for mandatory EIA with all proposals which exceed 85,000 birds.
- 1.3 This report has been prepared by Ian Pick. Ian Pick is a specialist agricultural and rural planning consultant. He holds a Bachelor of Science with Honours Degree in Rural Enterprise and Land Management and is a Professional Member of the Royal Institution of Chartered Surveyors, being qualified in the Rural Practice Division of the Institution.
- 1.4 Ian Pick has 26 years' experience specialising in agricultural and rural planning whilst employed by MAFF, ADAS, Acorus and most recently, Ian Pick Associates Limited.
- 1.5 Copies of this Environmental Statement are available from Ian Pick Associates Ltd for the sum of £50 for a paper copy, and £10 for a CD copy.

## **CHAPTER 2.**

### **2. ENVIRONMENTAL IMPACT ASSESSMENT**

#### **Regulatory Context**

- 2.1 The requirements of Environmental Impact Assessment are provided within the Town and Country Planning (Environmental Impact Assessment) Regulations 2017. These are referred to as the EIA regulations within this document. The EIA regulations require that any development which is listed in Schedule 1 be subject to EIA.
- 2.2 The proposed development falls within the definition of Section 17 of Schedule 1, 'Installations for the intensive rearing of poultry or pigs' as it exceeds the threshold of 85,000 broilers as defined in Section 17 part (a).

#### **Screening**

- 2.3 The process of determination whether a proposed development requires an EIA is called 'screening'. The EIA Regulations permit for a developer to request a screening opinion from the Local Planning Authority (LPA) to determine whether the EIA process should be followed. In this instance, EIA is mandatory under Schedule 1 of the 2017 EIA regulations and therefore a screening opinion was not required.

#### **Scoping**

- 2.4 This Environmental Impact Assessment provides the following scope of assessment.
- Amenity Issues (Noise and Odour)
  - Ecological Issues and Ammonia Impacts

#### **Assessment and Reporting Methodology**

- 2.5 Following identification of potential environmental effects through the EIA scoping process, technical assessments were carried out in order to predict potential effects associated with the development and where necessary proposed measures to mitigate the effects. These assessments are contained within the Environmental Statement.

#### **The Environmental Statement**

- 2.6 The Environmental Statement has been prepared to accompany an application for planning permission for the redevelopment of existing poultry unit including demolition of 5 No. existing poultry buildings and 2 storage barns, followed by the erection of 2 No. replacement poultry buildings, together with control rooms, feed bins, concrete apron, water tank, gas tanks, dirty water tank, and a drainage attenuation pond. The application has been submitted to

East Lindsey District Council under the terms of the Town and Country Planning Act 1990.

- 2.7 The Town and Country Planning (Environmental Impact Assessment) Regulations 2017, Schedule 4, requires that an Environmental Statement should include at least the following information:
- A description of the development including:
    - A description of the location of the development
    - A description of the main characteristics of the whole development and the land use requirements during the construction and operational phases.
    - A description of the main characteristics of the operational phase of the development (in particular any production process)
    - An estimate by type and quantity, of expected residues and emissions.
  - A description of the reasonable alternatives studied by the developer which are relevant to the proposed project and its specific characteristics, and an indication of the main reason for selecting the chosen option.
  - A description of the current state of the environment (baseline scenario)
  - A description of the factors likely to be significantly affected by the development.
  - A description of the likely significant effects of the development on the environment resulting from
    - The construction and existence of the development
    - The use of natural resources, in particular land, soil, water and biodiversity.
    - The emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste.
    - The risks to human health, cultural heritage or the environment
    - The accumulation of effects with other existing and / or approved projects.
    - The impact of the project on the climate and and vulnerability of the project to climate change
    - The technologies and substances used
  - A description of the forecasting methods or evidence used to identify and assess the significant effects on the environment including any difficulties encountered compiling the required information.
  - A description of the measures envisaged to avoid, prevent, reduce or, if possible offset any identified significant adverse effects on the environment. That description should explain the extent to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.
  - A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and / or disasters which are relevant to the project concerned. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant

adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.

- A non-technical summary of the above.

### **Contributors to the Environmental Statement**

2.8 The team of consultants involved in the EIA are listed in table 2.1 below. Each was selected for their technical services and expertise in their respective fields.

Table 2.1

<b>Chapter</b>	<b>Consultants</b>
1. Introduction	IPA Ltd
2. EIA Process	IPA Ltd
3. Description of Development	IPA Ltd
4. Choice of Location	IPA Ltd
5. Planning Policy Context	IPA Ltd
6. Potential Environmental Effects	IPA Ltd
7. Amenity Impacts	Matrix Acoustics, AS Modelling and Data
8. Ecological Issues	Craig Emms, AS Modelling and Data
Non Technical Summary	IPA Ltd

**CHAPTER 3.**

**3. DESCRIPTION OF DEVELOPMENT**

**Background Information**

- 3.1 Thoresby Bridge Farm is an existing operational poultry farm, producing broiler chickens. The farm currently extends to 5 No. poultry sheds and has a capacity of 68,300 bird places. The site is permitted by the Environment Agency under the Environmental Permitting regime (Permit Number: EPR/UP3603LX). A location plan is enclosed at **Appendix 1**.

**Project Description**

- 3.2 The applicants have submitted a planning application to East Lindsey District Council for the redevelopment of existing poultry unit including demolition of the 5 No. existing poultry sheds and 2 No. storage barns, followed by the erection of 2 No. replacement poultry buildings, together with control rooms, feed bins, a concrete apron, water tank, gas tanks, dirty water containment tank, and a drainage attenuation pond. The detailed elements of the scheme are shown in the table below.

**Table 3.1**

Element	Description
Demolition	Demolition of 5 No. poultry houses and 2 No. storage barns, totalling 4825 sq. m
New Poultry Houses	Erection of 2 No. new poultry houses measuring 122m x 20.42m with an eave's height of 3m and a ridge height of 5.728m.
Control Rooms	Erection of a link control rooms measuring 27 sq.
Feed Bins	Installation of 3 No. replacement feed bins with a height of 8.6m and a diameter of 3.5m.
Concrete Apron	Construction of a concrete apron measuring 1800 sq m.
Dirty Water Tanks	Installation of 1 No. underground dirty water tanks.
Attenuation Pond	Construction of an attenuation pond for sustainable drainage.

- 3.3 The proposed development involves the redevelopment of the poultry farm together with associated infrastructure, as described in Table 3.1 above. The poultry buildings are to be used for the rearing of broilers from day old chicks through to finished table weight, with the additional infrastructure required, to facilitate the proposed use.
- 3.4 The proposed poultry buildings will be fitted with pan feeders, non drip nipple drinkers and heating. Ventilation within the buildings will be based on high speed roof fans. The ventilation, heating and feeding systems are all fully automated and controlled by a computer system located within the control rooms. The systems are alarmed for high and low temperature, feeding system failure and power failure. The alarm system will be linked to an ‘auto dial’ computer system which alerts personnel via mobile phone to any system failures. The proposed poultry unit will produce standard birds, based on a 48-day growing cycle, including 10 days at the end of each cycle for cleanout and preparation of the buildings for the incoming flock. The unit will operate with approximately 7.5 flocks per annum.
- 3.5 The chicks are placed within the building as day olds and reared within the building for 38 days, following which they are manually caught and transported live to the processors. During the growing cycle temperature is controlled within the buildings. The buildings are pre-warmed to a temperature of 32°C on day 1 of the cycle reducing to 18°C over the growing cycle. The temperature is controlled by heaters and the ventilation system. The development will operate on an all-in all-out basis, with all four proposed buildings stocked and de stocked at the same time.
- 3.6 At the end of each flock cycle, the buildings are cleaned out and the manure removed from the sheds using agricultural loaders, and removed from the site in sheeted trailers for disposal under contract through biomass power stations. Following manure removal, the buildings will be washed out with high pressure hoses and prepared for the incoming flock. The inside of the poultry buildings is drained to sealed dirty water tanks which will be emptied following each cleanout of the building by vacuum tanker.

**External Lighting**

- 3.7 The development does not require 24 hour external lighting. There are three days over each flock cycle, being days 30, 37 and 38 when night time catching operations will be undertaken and lighting on the site will be required in the form of directional flood lighting above the catching doors. Outside of the catching periods, 24 hour lighting is not required. Motion sensor trigger lighting will be provided for any staff needing to visit the site during hours of darkness.



*Mitigation within the Project Design*

- 3.8 Mitigation is inherent within the project design. The proposal is for the development of a poultry unit and requires an Environmental Permit in order to operate which is issued by the Environment Agency. The requirements of the EP insist on the site being designed to Best Available Techniques (BAT) which includes high speed uncapped roof mounted fans.
- 3.9 The proposed buildings are also required by the Environmental Permit to be sealed and drained into a SSAFO certified dirty water containment system which essentially removes any potential for contaminated water escaping from the site. The concrete apron to the north of the poultry buildings must be fitted with a diverter valve (required by EP) to ensure that during periods where the apron can become contaminated (during cleanout), all contaminated water can be diverted to the sealed dirty water containment system.
- 3.10 The hydrological assessment identifies a requirement for surface water drainage to be attenuated to a greenfield runoff rate, and a Sustainable Urban Drainage System (SuDS) is incorporated into the design in the form of an attenuation pond.

*Climate Change*

- 3.11 Schedule 4 of the 2017 requires at 5(f) requires the ES to include a description of the likely significant effects of the development on climate and the vulnerability of the project to climate change. Mitigation for climate change is factored into the sustainable drainage design of the proposals which includes the appropriate additional capacity for climate change within the designed system.

*Construction Phase*

- 3.12 The construction phase of the proposed development will extend to approximately 40 weeks. This phase involves the following elements.
- Demolition of the existing buildings
  - Importation of stone, levelling and compacting to create a sub-base.
  - Preparation of concrete foundation pads for steelwork
  - Erection of steelwork and cladding
  - Concreting of the building floors and concrete aprons.
  - Fitting of the buildings and installation of equipment.
- 3.13 The construction materials will be delivered into the site using HGV vehicles. Stone will be delivered using 8 wheel rigid quarry lorries; Concrete using 6 wheel rigid ready mix concrete lorries; and steel framework and sheeting using articulated lorries with flatbed trailers.
- 3.14 The proposal is a permanent development, and the estimated design life of the buildings is in excess of 50 years.

*Characteristics and Production Processes*

- 3.15 The use of the proposed buildings is for the rearing of day-old broiler chickens through to finished table weight.

*Expected Residues and Emissions*

- 3.16 The proposed broiler farm requires a permit under the Environment Agencies Environmental Permitting regime.
- 3.17 Expected residues and emissions from the site are limited to:
- Airbourn emissions in the form of odour, ammonia and nitrogen
  - Noise emission from mechanical plant.
  - Production of waste in the form of poultry manure and dirty water.

*Forecasting Methods*

- 3.18 The forecasting methods used within this assessment are detailed within the individual chapters and assessments.
- Noise is forecast using BS4142:2014.
  - Odour Assessment is forecast based on Environment Agency IPPC permitting guidance for odour modelling - Environment Agency H4 Odour Management Guidance 2011
  - Ecology Issues are assessed using the methodology contained within Handbook for Phase 1 habitat survey: a technique for environmental audit (Joint Nature Conservation Committee, 2010) and the current guidance on survey methods from the Chartered Institute of Ecology and Environmental Management (Guidelines for Preliminary Ecological Appraisal. CIEEM, 2012). The Habitat Suitability Index was calculated following ARG UK advice note 5 (Amphibian and Reptile Groups of the United Kingdom, 2010).
  - Ammonia is assessed based on guidance within Environment Agency H1 Risk Assessments.

*Assessment of Significance of Environmental Effects*

3.19 In terms of the potential environmental effects, these have been assessed in accordance with the significance criterion outlined below. The assessment of significance within each subject chapter of the Environmental Statement has been informed corresponding technical assessment within the Appendices.

<b>None</b>	<b>The development will not produce any effects beyond those which may be experienced within the current farming regime.</b>
<b>Low</b>	<b>There will be an effect, however this will be localised and will not impact on environmental and other features to their detriment when relating to existing uses (e.g. distance too far)</b>
<b>Medium</b>	<b>There will be an effect which will impact on environmental features, but not significantly.</b>
<b>High</b>	<b>A significant effect.</b>
<b>Positive</b>	<b>Has a benefit.</b>

**CHAPTER 4.**

**4. CHOICE OF LOCATION / ALTERNATIVE SITES**

- 4.1 The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 require an Environmental Statement to cover alternatives **studied** by the applicants.
- 4.2 This proposal is for the redevelopment of an existing, operational broiler chicken rearing unit. Due to the nature of the development, alternative sites have not been considered.

## CHAPTER 5.

### 5. PLANNING AND POLICY FRAMEWORK

#### **Introduction**

- 5.1 This chapter identifies planning policy relevant to the proposed development and the application site, together with an assessment of the development proposal against the planning policy and guidance.
- 5.2 The proposed development has been prepared having regard to national and local policy and guidance.

#### **National Planning Policy Framework**

- 5.3 The National Planning Policy Framework confirms that the purpose of the planning system is to contribute towards the achievement of sustainable development. Paragraph 8 of the NPPF states “There are three dimensions to sustainable development: economic, social and environmental. These dimensions give rise to the need for the planning system to perform a number of roles:
- **an economic role** – contributing to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation; and by identifying and coordinating development requirements, including the provision of infrastructure;
  - **a social role** – supporting strong, vibrant and healthy communities, by providing the supply of housing required to meet the needs of present and future generations; and by creating a high quality built environment, with accessible local services that reflect the community’s needs and support its health, social and cultural well-being; and
  - **an environmental role** – contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy”
- 5.4 Paragraphs 85 and 86 set the Governments position on economic growth, as detailed below:

*85. Planning policies and decisions should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development. The approach taken should allow each area to build on its strengths, counter any weaknesses and address the challenges of the future. This is particularly important where Britain can be a global leader in driving innovation<sup>44</sup>, and*

*in areas with high levels of productivity, which should be able to capitalise on their performance and potential.*

*86. Planning policies should:*

*a) set out a clear economic vision and strategy which positively and proactively encourages sustainable economic growth, having regard to Local Industrial Strategies and other local policies for economic development and regeneration.*

*b) set criteria, or identify strategic sites, for local and inward investment to match the strategy and to meet anticipated needs over the plan period.*

*c) seek to address potential barriers to investment, such as inadequate infrastructure, services or housing, or a poor environment; and*

*d) be flexible enough to accommodate needs not anticipated in the plan, allow for new and flexible working practices (such as live-work accommodation), and to enable a rapid response to changes in economic circumstances.*

5.5 Paragraph 88 provides support for economic growth in rural areas, as detailed below:

*88. Planning policies and decisions should enable:*

*a) the sustainable growth and expansion of all types of business in rural areas, both through conversion of existing buildings and well-designed new buildings.*

*b) the development and diversification of agricultural and other land-based rural businesses.*

5.6 Paragraph 194 refers to developments where a separate Environmental Permit is required in terms of the operation of the site.

*194. The focus of planning policies and decisions should be on whether proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes). Planning decisions should assume that these regimes will operate effectively. Equally, where a planning decision has been made on a particular development, the planning issues should not be revisited through the permitting regimes operated by pollution control authorities.*

## CHAPTER 6.

### 6. POTENTIAL ENVIRONMENTAL AFFECTS

- 6.1 The bird numbers associated with the proposed development exceeds Schedule 1 threshold, and therefore an EIA is mandatory as part of the planning application process.
- 6.2 The scope of the Environmental Statement is detailed below:
- Amenity Impacts (noise and odour)
  - Ecological Issues and Ammonia Deposition

#### *Scope of the Assessments*

##### *Amenity Impacts*

- 6.3 Noise is assessed in Chapter 7, and within the Noise Impact Assessment at **Appendix 2**. The scope of the noise assessment includes noise sources arising from the operation of the proposed development described in Chapter 3, including plant in the form of the mechanical ventilation systems and transport related activities. The assessment has been prepared in accordance with BS4142:2014.
- 6.4 Odour is assessed in Chapter 7, and within the Odour Impact Assessment at **Appendix 3**. The odour assessment is based on a comparison of the impacts of the existing and proposed poultry buildings throughout the duration of the flock cycle, and during the cleanout process. The odour impact assessment has been prepared in accordance with the Environment Agency H4 Odour Management Guidance 2011.

##### *Ecology*

- 6.5 Ecology is assessed within the Chapter 8, and the associated Phase 1 Habitat Survey at **Appendix 4**.
- 6.6 The scope of the ecological assessment relates to the full development described in Chapter 3. The site was surveyed following the methodology contained in the Handbook for Phase 1 habitat survey: a technique for environmental audit (Joint Nature Conservation Committee, 2010) and the current guidance on survey methods from the Chartered Institute of Ecology and Environmental Management (Guidelines for Preliminary Ecological Appraisal. CIEEM, 2012). The Habitat Suitability Index was calculated following ARG UK advice note 5 (Amphibian and Reptile Groups of the United Kingdom, 2010).

##### *Ammonia Impacts*

- 6.7 Ammonia Impacts are addressed within Chapter 8, and the associated Ammonia Impact Assessment at **Appendix 5**. The ammonia assessment is

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based on a comparison of the existing and proposed poultry buildings throughout the duration of the flock cycle, and during the cleanout process. The odour impact assessment has been prepared in accordance with the Environment Agency H1 Risk Assessments.



## CHAPTER 7.

### 7. AMENITY ISSUES (NOISE AND ODOUR)

#### *Baseline Conditions*

- 7.1 The application site is an existing, operational broiler chicken rearing unit for 68,300 birds. The existing buildings are dated and operate with natural ventilation. The noise and odour assessments set the operation of the existing buildings as a baseline, and the assessments are based on a comparable with the instruction of replacement buildings, and a new ventilation system across the whole site conforming to Best Available Techniques.

#### Noise

#### Scope of the Assessment

- 7.2 A detailed noise assessment has been prepared by Matrix Acoustic Design Consultants to review plant and operational noise generated from the proposed development. The assessment includes the proposed ventilation systems together with transport related noise. The full detailed analysis, which includes the results of a noise survey and acoustic calculations, are provided at **Appendix 2**. The Acoustic Assessment has been undertaken to BS4142:2014.

#### Assessment Summary

- 7.3 A noise impact assessment has been undertaken for the proposed replacement poultry units at Thoresby Bridge Farm. The full assessment is included at **Appendix 2** and summarised below.
- 7.4 The proposed replacement poultry units are within context of the sheds that they will replace, in both terms of operation and nature of noise emissions; the two main noise sources will be ventilation extract fans and transport activities (e.g., stock deliveries/collections).
- 7.5 For the noise impact assessment, two mitigation measures have been included, namely:
- *Roof extract fans:* Attenuators fitted to the roof extract fans that achieve the minimum insertion losses provide in Table 2. These values can be provided to an attenuator manufacture in order to select a suitable product.
  - *Transport activities on the concrete apron:* 2m high noise barrier along the north-east boundary of the concrete apron; Figure 7

The assessment included:

- A noise survey to establish representative background noise levels at the nearest private dwellings (Receptors A and B, Figure 1); Appendix A and Figure 4

- Calculation of the noise emissions and corresponding BS4142 Rating Levels generated by the extract fans and transport activities; Table 3 and Tables B1 – B3, Appendix B

The findings of the assessment established:

- *Extract fans:* The Rating Level of the extract fans, with attenuators fitted to the roof units (Table 2), will not exceed the representative background noise levels, indicating a BS4142 low noise impact
- 7.5 *Transport activities:* The Rating Levels during the day period may exceed the representative background noise levels by up to 4dB, which indicates a ‘marginal’ noise impact during the day period. This is considered acceptable when the context that poultry transport noise emissions already occur, with the proposed scheme resulting in a beneficial reduction in the 1hr transport related activity noise emissions over the current situation; according to IEMA this indicates a negligible impact with regard to the change in the noise environment.
- 7.6 During the night period, when occupiers are expected to be indoors, the transport noise ingress complies with our suggested ambient noise ingress limits and the maximum noise events will be below the PProPG guidance threshold with regard to sleep disturbance; this indicates a low noise impact during the night.
- 7.7 On the basis that the proposed replacement poultry units will result in a low noise impact for the extract fans, a reduction in the transport related noise emissions and acceptable noise ingress levels during the night, we conclude that on noise grounds the proposed scheme is acceptable.

*Assessment Level Assuming Mitigation*

- 7.8 Based on the assessment criterion outlined in paragraph 3.19, the noise impacts of the proposed development are assessed as ***low***. ***There will be an effect, however this will be localised and will not impact on environmental and other features to their detriment when relating to existing uses (e.g. distance too far)***
- 7.9 The proposed development will result in a permanent effect, as the noise impacts of the development arise from the operation throughout the lifespan of the development.

*Cumulative Impacts*

- 7.10 The noise impact assessment is based on a background noise survey undertaken in the locality of the application site. The assessment therefore takes account of all existing noise sources.

**Air Quality Assessment**

**Baseline Conditions**

- 7.11 The application site is an existing, established poultry unit operating with a capacity of 68,300 birds and utilising natural ventilation. The existing odour impacts of the development have been modelled in the Odour Impact Assessment at **Appendix 3**. The existing and proposed impacts are shown in Table 2 on page 21 of Appendix 3 and reproduced below.

*Table 2. Predicted maximum annual 98<sup>th</sup> percentile hourly mean odour concentrations at the discrete receptors*

Receptor number	X(m)	Y(m)	Site	Maximum annual 98 <sup>th</sup> percentile hourly mean odour concentration (ou <sub>E</sub> /m <sup>3</sup> )	
				Existing GFS Calms Terrain	Proposed GFS Calms Terrain
1	533745	399744	Thoresby Bridge Farm	<b>15.80</b>	<b>6.53</b>
2	533662	399757	Residence, Fen Lane	<b>4.84</b>	<b>3.46</b>
3	533615	399766	Residence, Thoresby Bridge	<b>3.18</b>	2.19
4	533902	399870	Ings Cottage	<b>4.17</b>	<b>3.28</b>
5	534553	400181	Residence, Ings Lane, North Cotes	0.33	0.39
6	534771	400051	Willowdene	0.27	0.32
7	534849	398959	Residence, Ellgate Lane	0.16	0.12
8	535033	399042	Tara	0.16	0.12
9	533818	398268	Brick Yard Farm	0.09	0.11
10	532074	399244	Residence, Fen Lane	0.07	0.06
11	531919	399625	Cockerline Cottage	0.08	0.05
12	532055	400254	Outholme Farm	0.08	0.05
13	532363	400435	Eastfield Farm	0.09	0.06
14	533263	400722	Windy Ridge	0.16	0.15

**Scope of the Assessment**

- 7.12 AS Modelling & Data Ltd. has been instructed by Ian Pick of Ian Pick Associates Ltd., on behalf of Ivy Farm Ltd., to use computer modelling to assess the impact of odour emissions from the existing and proposed poultry rearing houses at Thoresby Bridge Farm, North Cotes, DN36 5TY.
- 7.13 Odour emission rates from the existing and proposed poultry houses have been assessed and quantified based upon an emissions model that takes into account the likely internal odour concentrations and ventilation rates of the poultry houses. The odour emission rates so obtained have then been used as inputs to an atmospheric dispersion model which calculates odour exposure levels in the surrounding area.
- 7.14 The modelling predicts that, at the four closest residential properties directly to the south of the existing poultry unit, the odour exposure is currently in excess of 3 ou<sub>E</sub>/m<sup>3</sup>. At all other receptors considered, predicted odour concentrations would be below the Environment Agency's benchmark for moderately

offensive odours, which is a maximum annual 98<sup>th</sup> percentile hourly mean concentration 3 of 3.0 ouE/m.

- 7.14 Should the proposed development proceed, although odour concentrations at the three closest residential properties to the proposed poultry unit are predicted to remain in excess of 3 ouE/m, the odour exposures would be significantly reduced.

**Odour Summary**

- 7.15 The modelling predicts that at nearby residences, the odour concentrations will be substantially reduced.
- 7.16 The odour impacts of the development relate to its operation for the design life of the project, and therefore represent a permanent effect.

**Assessment Level Assuming Mitigation**

- 7.17 Based on the assessment criterion outlined in paragraph 3.19, the odour impacts of the proposed development are assessed as **positive**. i.e. there is a beneficial reduction in odour levels compared with the existing development.

**Cumulative Impacts**

- 7.18 There are no other livestock installations within close proximity to Thoresby Bridge Farm, and therefore, there is no potential for cumulative odour impacts with other livestock installations.

## CHAPTER 8.

### 8. ECOLOGICAL ASSESSMENT

#### Baseline Conditions

- 8.1 A phase 1 Habitat Survey has been undertaken on the site to determine baseline ecological conditions on the site. The Phase 1 Habitat Survey relates to the full development as described in Chapter 3. The full Phase 1 assessment is contained at **Appendix 4**. The application site is an existing poultry farm.
- 8.2 The site was surveyed following the methodology contained in the Handbook for Phase 1 habitat survey (Joint Nature Conservation Committee. 2010. *Handbook for Phase 1 habitat survey: a technique for environmental audit*. JNCC, Peterborough, UK) and the current guidance on survey methods from the Chartered Institute of Ecology and Environmental Management (CIEEM. 2012. *Guidelines for Preliminary Ecological Appraisal*. CIEEM, Winchester, UK). The Habitat Suitability Index for great crested newts was calculated following ARG UK advice note 5 (Amphibian and Reptile Groups of the United Kingdom, 2010).
- 8.3 The Phase 1 Habitat Survey provides evidence that the site is not as a whole of sufficient ecological value to warrant whole-scale protection from the development. The sites habitats which will be affected by the works are common and widespread and are considered to be of low intrinsic biodiversity value.

#### The Development Proposal

- 8.4 The development proposal is for the redevelopment of the existing poultry unit including demolition of 5 No. existing poultry sheds and 2 No. storage barns followed by the erection of 2 No. replacement poultry sheds, link control rooms, feed bins, a concrete apron, water tank, gas tanks, dirty water tank, and a drainage attenuation pond. The ecological assessment provided at **Appendix 4** confirms that the application site itself is of low intrinsic biodiversity value.
- 8.5 Intensive poultry farming enterprises have the potential to create increased levels of ammonia and nitrogen within the atmosphere in the locality, which can in turn create negative impacts on sites of nature conservation importance, for example, Special Areas of Conservation (SAC's), Sites of Special Scientific Interest (SSSI), Ancient Woodlands and Local Wildlife Sites. A detailed ammonia assessment is provided at **Appendix 5** which compares the existing and proposed ammonia impacts of the proposed development.
- 8.6 There are four areas designated as Local Wildlife Sites (LWSs) within, or close to, 2 km (the normal screening distance for non-statutory sites) of the poultry houses at Thoresby Bridge Farm. There is one area designated as a Site of Special Scientific Interest (SSSI) within 5 km (the normal screening distance for SSSIs) of the farm, namely Tetney Blow Wells SSSI. Beyond this, there is another SSSI, which is also designated as a Special Area of Conservation (SAC), a Special Protection Area (SPA) and a Ramsar site,

within 10 km (the normal screening distance for an internationally designated site) of the farm, namely Humber Estuary SSSI/SAC/SPA/Ramsar.

**Ammonia Impact Assessment Summary**

- 8.7 AS Modelling & Data Ltd. has been instructed by Mr. Ian Pick of Ian Pick Associates Ltd., on behalf of Chesterfield Poultry Ltd., to use computer modelling to assess the impact of ammonia emissions from the existing and proposed broiler chicken rearing houses at Thoresby Bridge Farm, North Cotes, East Lindsay in Lincolnshire. DN36 5TY.
- 8.8 Ammonia emission rates from the existing and proposed poultry rearing houses have been assessed and quantified based upon the Environment Agency's standard ammonia emission factors. The ammonia emission rates have then been used as inputs to an atmospheric dispersion and deposition model which calculates ammonia exposure levels and nitrogen and acid deposition rates in the surrounding area.

**Existing poultry houses**

- 8.9 The modelling predicts that:
- Process contributions to ammonia concentrations and nitrogen deposition exceed the Environment Agency's upper/lower threshold percentage of the precautionary Critical Level of 1.0 µg/m<sup>3</sup> and the Critical Load of 10.0 kg/ha at some of the closer LWSs.
  - Process contributions to ammonia concentrations and nitrogen deposition are below the Environment Agency's lower threshold percentage of the Critical/Load at all statutory wildlife sites.
  - Process contributions to ammonia concentrations and nitrogen deposition are below 1% of the Critical/Load at all statutory wildlife sites.

**Proposed poultry houses**

- 8.10 The modelling predicts that:
- Although very significantly lower than under the existing scenario, process contributions to ammonia concentrations and nitrogen deposition would continue to exceed the Environment Agency's upper/lower threshold percentage of the precautionary Critical Level of 1.0 µg/m<sup>3</sup> and the Critical Load of 10.0 kg/ha at some of the closer LWSs.
  - Process contributions to ammonia concentrations and nitrogen deposition would remain below the Environment Agency's lower threshold percentage of the Critical/Load at all statutory wildlife sites.

- Process contributions to ammonia concentrations and nitrogen deposition would remain below 1% of the Critical/Load at all statutory wildlife sites.

**Summary**

- 8.10 The Phase 1 Habitat Survey provides evidence that the site is not as a whole of sufficient ecological value to warrant whole-scale protection from the development. The sites habitats which will be affected by the works are common and widespread and are considered to be of low intrinsic biodiversity value.
- 8.11 The ammonia modelling, shows that the redevelopment of the site and introduction of new ventilation systems results in very low process contributions which would be classed as negligible.

**Assessment Level Assuming**

- 8.12 Based on the assessment criterion outlined in paragraph 3.19, the ammonia impacts of the proposed development are assessed as **low**. i.e. ***There will be an effect, however this will be localised and will not impact on environmental and other features to their detriment when relating to existing uses (e.g. distance too far)***

## NON-TECHNICAL SUMMARY

- 1.1 This non-technical summary has been produced to summarise the issues, mitigation measures and effects relating to the proposed development for the redevelopment of existing poultry unit including demolition of 5 No. existing poultry buildings and 2 No. storage barns, followed by the erection of 2 No. replacement poultry buildings, together with control rooms, feed bins, concrete apron, water tank, gas tanks, dirty water tank, and a drainage attenuation pond.
- 1.2 The full extent of the proposed development is shown in the table below.

Element	Description
Demolition	Demolition of 5 No. poultry houses and 2 No. storage barns, totalling 4825 sq. m
New Poultry Houses	Erection of 2 No. new poultry houses measuring 122m x 20.42m with an eave's height of 3m and a ridge height of 5.728m.
Control Rooms	Erection of a link control rooms measuring 27 sq.
Feed Bins	Installation of 3 No. replacement feed bins with a height of 8.6m and a diameter of 3.5m.
Concrete Apron	Construction of a concrete apron measuring 1800 sq. m.
Dirty Water Tanks	Installation of 1 No. underground dirty water tanks.
Attenuation Pond	Construction of an attenuation pond for sustainable drainage.

- 1.3 Post development, the scale of operations on the site will increase from 68,300 birds up to 114,000 birds.



*Assessment of Significance of Environmental Effects*

1.3 In terms of the potential environmental effects, these have been assessed in accordance with the significance criterion outlined below.

<b>None</b>	<b>The development will not produce any effects beyond those which may be experienced within the current farming regime.</b>
<b>Low</b>	<b>There will be an effect, however this will be localised and will not impact on environmental and other features to their detriment when relating to existing uses (e.g. distance too far)</b>
<b>Medium</b>	<b>There will be an effect which will impact on environmental features, but not significantly.</b>
<b>High</b>	<b>A significant effect.</b>
<b>Positive</b>	<b>Has a benefit.</b>

1.4 The scheme has been designed to take into account the potential environmental effects, with mitigation inherent in the project design. The scope of assessment included within the Environmental Impact Assessment includes the following:

- Amenity Impacts (noise and odour)
- Ecological Issues and Ammonia Deposition

1.5 The impact relating to these issues is summarised in the following sections.

***Environmental Impact***

Issue	Mitigation Measures	Effect Assuming Mitigation
<b>Noise</b>	Use of attenuators on the extract fans and construction of a noise barrier on the concrete apron.	<b>Low (not significant)</b> The noise assessment concludes that the noise impacts are low.
<b>Odour</b>	Installation of High-Speed Ventilation Fans.	<b>Positive (not significant)</b> The proposals represent an improvement in odour impacts in the locality.
<b>Ecology</b>		<b>Low (not significant)</b> The sites habitats which will be affected by the works are common and widespread and are considered to be of low intrinsic biodiversity value.
<b>Ammonia Deposition</b>	Installation of High Speed Ventilation Fans.	<b>Low (not significant).</b> The proposals result in negligible ammonia impacts to sites in the locality.

1.6 In conclusion, the proposed poultry unit redevelopment at Thoresby Bridge Farm will not produce any significant Environmental Impacts. From the information appraised through the Environmental Impact Assessment process, it is clear that the proposed redevelopment will have low impact on the environment taking into account the migration measures proposed.

1.7 No technical difficulties have been encountered with the preparation of this Environmental Statement.

**Ian Pick BSc (Hons) MRICS, March 2024.**