ENVIRONMENTAL STATEMENT

IN RELATION TO

PROPOSED EXTENSIONS TO FREE RANGE POULTRY UNIT

AT

BURLTON LANE FARM, MYDDLE, SHREWSBURY

ON BEHALF OF

TS & C POWELL

ENVIRONMENTAL STATEMENT

Applicant's Details

TS & C Powell
Burlton Lane Farm
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Project

Extension to free range poultry unit at
Burlton Lane Farm

Local Planning Authority

Shropshire Council

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CHAPTER 1

INTRODUCTION

1.0 INTRODUCTION

1.1 Introduction to the Proposed Development

1.1.1 TS and Mrs C Powell farm at Burlton Lane Farm which is located between Shrewsbury and Ellesmere near the village of Myddle. The farm extends to around 137 acres plus an additional 80 acres which is rented in. The farm is a mostly livestock holding with around 180 head of cattle. There is also an existing free range egg poultry unit situated to the west of the farm buildings. This was originally just one building which was granted planning permission by North Shropshire District Council on 13th December 2004. The poultry unit has since been extended and a second buildings was granted planning permission by North Shropshire District Council dated 18th October 2007.

1.1.2 The business has invested a large amount of time and capital in developing the egg production enterprise, providing local employment and boosting the local economy. It is now a very important part of the farming business and provides a significant proportion of the farms income.

1.1.3 To ensure that the business remains viable TS and Mrs C Powell have taken the decision to expand the free range egg producing enterprise. To do this they intend to extend the existing sheds to meet the increasing market demand for free range eggs. The market share for free range eggs (including organic) has increased to approximately 45% of all eggs sold.

1.1.4 The existing site is capable of accommodating the proposed extension as enough land is available around the sheds for the necessary additional ranging area. The proposal only involves small extension to the existing buildings by 2 bays and the relocation of the current packing units to a purpose built egg packing building situated between the hen accommodation buildings. This will allow all of the space within the poultry buildings to be utilised for hen accommodation and enable the buildings to be fitted out with a multi-tier system. The total number of birds will increase from 32,000 to 64,000 (32,000 in each building).

1.1.5 The sheds will be fitted with a Big Dutchman Natura 284 system (multi-tier) aviary. The multi-tier systems are suitable to extension and refurbishment projects as they are based on a modular system. The system has been developed to allow the birds to follow their natural behaviour patterns whilst giving optimum efficiency and production to the producer.

1.2 Site Location/Description

1.2.1 To enable the increase in hen numbers it is proposed to extend the existing free range egg buildings which are situated to the west of the farm buildings at Burlton Lane Farm. A site location plan can be seen at ***Appendix 1*** of the accompanying Appendix Document.

1.2.2 Burlton Lane is located around 1km to the north-west of the village of Myddle to the west side of the A528 midway between Shrewsbury and Ellesmere. The farm is accessed directly off the A528 with the access track extending around the north of the farm buildings to the poultry units. The only residential properties within close proximity of the site are Burlton Lane Farmhouse which is owned and occupied by the applicant and Numbers 1 and 2 Old Barn which are barn conversions previously associated with the main farm unit.

1.3 The EIA Process and Regulatory Context

1.3.1 The Town & Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2011 (as amended) require that for certain developments an Environmental Impact Assessment (EIA) is required (hereinafter referred to as The EIA Regulations). The Regulations set out the types of development where an EIA is mandatory (Schedule 1) and when the need for an EIA will be determined if the development is likely to have significant environmental impacts by reason of factors such as the size, scale, location or other likely impacts (Schedule 2). It was considered by Shropshire Council that an Environmental Statement will be required to accompany any formal application for the proposed development. The reason for this was considered to be the cumulative impact in relation to the existing free range poultry retained on site which equates to 32,000 birds and that the proposed increase of 32,000 additional birds will increase the numbers to 64,000 which exceeds the thresholds of 60,000 birds as indicated in Schedule 1 17(a) of EIA Regulations.

1.3.2 A written Scoping Opinion has been received from Shropshire Council dated 23rd July 2015 (ref:15/02434/SCO). This sets out advice with regards to what is required to be submitted with any planning application and contained in the Environmental Statement/Impact Assessment to accompany any formal submission. The individual elements of this have been covered in the relevant sections of this report. Berrys also have experience of EIA requirements from recently submitted applications for both free range and broiler poultry units. The

EIA has covered all of the issues relevant to intensive poultry applications and where possible has also used standard advice from relevant bodies.

1.3.3 The objectives of the EIA are to identify potential environmental impacts of a proposed development and identify measures to mitigate any adverse impacts. The Environmental Statement (ES) will report the finding of the EIA. Schedule 4 of the Town & Country Planning (Environmental Impact Assessment) Regulations 2011 sets out the necessary information to assess impacts on the natural environment to be included in an ES, specifically:

- A description of the development – including physical characteristics and the full land use requirements of the site during construction and operational phases.
- Expected residues and emissions (water, air and soil pollution, noise vibration, light, heat, radiation, etc.) resulting from the operation of the proposed development.
- An Assessment of alternatives and clear reasoning as to why the preferred option has been chosen.
- A description of the aspects of the environment likely to be significantly affected by the development, including, in particular, population, fauna, flora, soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape and the interrelationship between the above factors.
- A description of the likely significant effects of the development on the environment – direct effects but also any indirect, secondary, cumulative, short, medium and long term, permanent and temporary, positive and negative effects. Effects should relate to the existence of the development, the use of natural resources and the emissions from pollutants. This should also include a description of the forecasting methods and where possible offset any significant adverse effects on the environment.
- A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment.
- A non-technical summary of the information
- An indication of any difficulties (technical deficiencies or lack of know-how) encountered by the applicant in compiling the required information.

1.3.4 The EIA has been conducted in accordance with the latest Government regulations and advice on good practice and carried out taking due consideration to other guidance such as that contained in the Institute of Environmental Management and Assessment's (IEMA) 'Guidelines for Environmental Impact Assessment' (2004), and where appropriate specific guidance for individual issues.

1.3.5 Any impact identified is assessed by looking at the degree of alteration from the baseline state which can be predicted (the magnitude of the effect) and the sensitivity of the receptors. The scoping and consultation set out above has identified the likely impacts and the nature of the receptors. Significance of the impact is evaluated using the following criteria:

- The value of the resource (international, national, regional and local importance)
- The magnitude of the impact
- The duration of the impact (long/short term, temporary/permanent)
- The reversibility of the impact
- The number and sensitivity of receptors
- The nature of the impact
- Whether the impact is direct or indirect

1.3.6 The significance of the impact (positive or negative) is generally considered to be one of the following:

- No significance/negligible – beneath the levels of perception, within the normal bounds of variation or within the margin or forecasting error; a non-detectable change to a location, environment or species
- Minor significance – a detectable but non-material and non-noteworthy change to a location, environment or species at a local level, relevant quality standards not approached
- Moderate significance – a material and noteworthy but non-fundamental change to a location, environment or species of local or district importance, relevant quality standards may be approached
- Major significance – a fundamental change to a location, environment or species of district to regional importance, relevant quality standards exceeded

- Extreme significance – a fundamental change (e.g. loss) to a location, environment or species of national/international importance, relevant quality standards exceeded by a substantial margin on a regular basis.

1.3.7 The assessment of impact considers residual impacts following mitigation measures introduced to reduce, remedy or avoid any significant adverse impacts.

1.3.8 The ES will describe the project and the key issues that arise. A non-technical summary of the findings will also be provided. The main body of the ES will include the following:

- Introduction – background, site information and the EIA process
- Scoping and Key Issues – topics to be assessed
- Development Description – details of the construction, use and physical nature of the development and its use
- Policy & Legislation – summary of planning and legislative content of the proposals
- Alternatives – the alternatives considered including 'do nothing' and alternative locations
- Environmental Assessment Chapters to cover; air quality, health and climate; landscape and visual assessment; heritage assets, highways; amenities; ecology; noise and vibration; water resources
- Conclusion – an overview of the assessment

1.3.9 The ES has been written by Berrys with the assistance of specialist consultants listed below:

- Highways – Andrew Gough, Woodsyde Developments Ltd
- Water, Drainage & Flood Risk – Andrew Gough, Woodsyde Developments Ltd
- Ecology – Turnstone Ecology
- Odour – AS Modelling & Date Ltd
- Noise – Matrix Acoustic Design Consultants
- Historic – Richard Morriss

CHAPTER 2

SCOPING AND KEY ISSUES

2.0 SCOPING AND KEY ISSUES

2.1 The Scoping Process

2.1.1 The EIA regulations set out the general information that should be included in an Environmental Statement with the principal issues being population, climate, flora, fauna, landscape, soil, air, water, material assets (including architectural and archaeological heritage) and 'any relationship between the above'. The EIA Regulations also require the EIA to cover "direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development, resulting from: a) the existence of the development; b) the use of natural resources; c) the emission of pollutants, the creation of nuisances and the elimination of waste."

2.1.2 The scoping process is required to determine the amount of information required to be provided on the principal issues in the ES. This allows the LPA to identify the key issues at an early stage to enable them to be dealt with and can inform developers of issues that they may not have been aware of.

2.1.3 A written Scoping Opinion has been received from Shropshire Council dated 23rd July 2015 (ref:15/02434/SCO) and can be seen at ***Appendix 2***. This sets out advice with regards to what is required to be submitted with any planning application and contained in the Environmental Statement/Impact Assessment to accompany any formal submission. The EIA has covered all of the issues relevant to intensive poultry applications and where possible has also used standard advice from relevant bodies.

2.2 Summary of Receiving Environment

2.2.1 The receiving environment has been fully considered in subsequent chapters of this report and summarised below.

General:

2.2.2 The application site is located approximately 1km to the north-west of the village of Myddle. The site is already utilised for free range egg production and the proposed development will only result in a small extension to the existing buildings. The land surrounding the site is predominantly agricultural, consisting of a mixture of arable and pasture land, with a variety of cropping being employed.

The farm buildings are situated immediately to the east of the poultry unit and the farm is accessed directly off the A528 between Shrewsbury and Ellesmere.

Air Quality:

2.2.3 There are no known locally designated Air Quality Management Areas close to the site.

Landscape:

2.2.4 The application site lies within an intensively farmed agricultural area. The existing land use includes free range poultry farming. The site and the immediate surrounding area is described by the Shropshire Landscape Character Assessment as comprising of Estate Farmlands; gently rolling lowland and valley floor landscapes that occur across large areas of Shropshire.

Highways:

2.2.5 The site is accessed directly off the A528 between Shrewsbury and Ellesmere. From visual assessment the A528 is of good width, alignment and forward visibility and is considered suitable to receive the likely traffic generated by this proposal. The existing access was substantially improved at the time of the construction of the existing poultry sheds in terms of the access geometry and junction visibility.

Population/Socio Economics:

2.2.6 There are only 4 residential properties within 400 metres of the poultry site. Burlton Lane Farmhouse is the closest at approximately 164 metres which is owned and occupied by the applicant. The closest properties in separate ownership are numbers 1 and 2 Old Barn at around 210m to the east of the closest poultry house. The only other dwelling within 400 metres is Greenfields around 300 metres to the north. The village of Myddle is roughly 1km to the south.

Geology and Soils

2.2.7 According to the Agricultural Land Classification of England and Wales the land is classed as Grades 3 and 4, being land with moderate and severe limitations which affects the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land classified as Grade 1 and 2.

2.2.8 The site is not identified as being underlain by an aquifer. The ground is heavy clays.

Arboriculture

2.2.9 The fields surrounding Burlton Lane Farm are bounded and crossed by dense and mature hedges with hedgerow trees. There are no trees of hedges on or next to the development site which will be affected by the proposed development. A full tree survey has therefore not been carried out but trees and hedges have been covered in the Ecology Report.

Ecology

2.2.10 The following habitats have been identified on and around the site:

Hardstanding/hardcore track

Improved grassland

Buildings

2.2.11 Habitats on the whole site, including the development footprint and ranging area, have the potential to support the following species:

Bats

Badger

Nesting bird species

Great Crested Newts

Reptiles

2.2.12 There are two designated sites which fall within the Impact Risk Zone for Designated Sites; Midlands Meres and Mosses Phase 1 (Ramsar) and Fenmere SSSI. Both sites are approximately 2.7km south-west of the proposed poultry extensions. A full Ecological Assessment has been carried out.

Water Resources

2.2.13 The fluvial sources in the area are the existing ditchcourse and ponds to the north and north-west. The site has an existing piped drainage system and ponds which outfall to a network of ditches to the north and north-east of the farm.

Cultural Heritage

2.2.14 There are no designated heritage assets with in the application site. The only non-designated heritage assets within 1km of the site are Burlton Lane Farmhouse and the converted barns to the south of the farmhouse. These are some distance from the poultry units and largely hidden by the existing late 20th Century farm buildings in between. Further afield, there are no designated or non-designated heritage assets close enough to be impacted by the proposed extensions to the poultry sheds.

CHAPTER 3

ASSESSMENT OF ALTERNATIVES

3.0 ASSESSMENT OF ALTERNATIVES

3.1 Potential Alternatives

3.1.1 Careful consideration has been given as to how to increase the number of laying hens at Burlton Lane Farm.

3.1.2 There are several important factors when considering where to locate and how to site free range laying buildings. Unlike broilers or caged laying systems, as well as being inside the birds also have access to the outside ranging area; this increases the parameters under consideration. Bird welfare is a key issue, as well as providing the required ranging area and complying with the other planning considerations such as visual impact, highways and drainage.

3.1.3 Bird welfare is essential to achieve high performance levels, and many of the problems that can create stress can be eliminated at the design stage. The proposed site is suitable for free range production as it provides adequate room for ranging areas and the associated poultry building.

3.1.4 The position of the house will influence how well the birds range over the pasture. Soil type and drainage will determine how likely the ground is to become fowl sick through the build-up of soil-bourne parasites. The land should be flat and free draining to minimise the build-up of worms and coccidial cysts; this type of pasture will also better retain grass cover. Ideally the houses need to be positioned in the centre of the land so that a series of radiating paddocks can be created around the unit. Range areas bordered by dense woodland will be more prone to fox or other predator problems as it provide cover; in some cases hens will be taken in broad daylight.

3.1.5 The applicant was looking to double the number of laying hens and the two main alternatives were to increase the number of hens at the existing site or to locate additional buildings elsewhere.

3.1.6 The existing buildings are well located in terms of the main farmstead and the enterprise has been operating on the site since 2005. The first option considered was to increase the number of laying hens on the existing site. This could either be achieved by extending the existing buildings or erecting further buildings. The potential for further buildings on the site is restricted due to the ranging requirements discussed above. It was therefore decided that extending the

existing buildings which are well orientated was a more suitable option. The existing site was originally chosen after much deliberation and extending the existing buildings would provide a suitable solution for the farm yet limiting potential impacts. If the buildings are re-fitted with a multi-tier system, they would only need to be extended by 2 bays to allow the proposed increase in hen numbers. This would also involve the relocation of the packing areas within the buildings to a purpose designed packing house situated between the buildings to be able to utilise the full space within the buildings for hen accommodation. This would be the most suitable option for site management and would also have the least impact in terms of visual impact.

3.1.7 The increase in hen numbers can be achieved by extending and re-fitting the existing buildings. This is beneficial in terms of sustainability and site management. The existing farmhouse will continue to provide the necessary site security and will allow the applicant to attend to emergencies as and when required. It was felt that erecting additional buildings elsewhere on the farm would have more potential impacts, particularly on the landscape and visual impact, than small extensions to the existing buildings enabling the same increase in hen numbers.

CHAPTER 4

DEVELOPMENT DESCRIPTION

4.0 DEVELOPMENT DESCRIPTION

4.1 Existing Poultry Business

4.2 TS & C Powell have been running successful free range egg laying units for a number of years, alongside a number of other farming operations in the surrounding area. The egg production business has proved successful and to help to meet increasing demand for free range eggs and to enable expansion of the business it is now necessary to increase the number of free range laying hens.

4.3 Proposed Development Overview

4.3.1 There are two existing buildings on the site which each accommodate 16,000 free range birds on a single tier (deck) system leading to 32,000 birds in total. The existing buildings are 109.74m in length by 19.61m and are low profile, being 3.05m to the eaves and 7.62m to the ridge.

4.3.2 It is proposed to extend both the existing buildings by 2 bays to increase the number of birds each can accommodate. This will increase the length of the buildings by 12.23m. The current egg packing units will be re-located from within the poultry buildings to a purpose built egg packing building situated between the two poultry units which will be linked by covered conveyor belts. This will allow all of the space within the poultry buildings to be utilised for hen accommodation and enable the buildings to be fitted out with a multi-tier system. The total number of birds will increase from 32,000 to 64,000 (32,000 in each building).

4.3.3 The sheds will be re-fitted with a Big Dutchman Natura 284 system (multi-tier) aviary. The multi-tier aviary systems are suited to extension and refurbishment projects as they are based on a modular system. The system has been developed to allow the birds to follow their natural behaviour patterns whilst giving optimum efficiency and production for the producer. The multiple levels of the system enable 100% of the shed floor area to be used for litter. Manure belts situated below the raised platforms ensure the birds are not exposed to their droppings – the hens remain cleaner and healthier. The temperature within the sheds can be maintained at a more constant level throughout the year, thereby reducing stress to the birds. Regular removal of manure maintains a superior air quality to that achievable within flat deck systems.

4.4 Production Cycle

4.4.1 The law covering the welfare of laying hens is covered by the Welfare of Farmed Animals (England) Regulations 2007 (As Amended). This sets limits on stocking densities as well as applying rules to maintain high standards of bird welfare. The main rules for which apply to free range producers are:

- When in the house a maximum of 9 birds per square metre of available floor space may be kept and the following areas must be available per hen:
- 250cm^2 of littered/bedding area;
- 15cm of perch space;
- 10cm of feeder per bird;
- One drinker to every 10 birds; and
- 1m^2 of nest space per 120 birds.

4.4.2 In addition birds must have continuous daytime access to open runs which are mainly covered with vegetation and with a maximum stocking density of 2,500 birds per hectare.

4.4.3 The laying birds remain in the unit for just over one year (average 56 week production cycle depending on the condition of the birds) before they are replaced with the next batch. They will start laying eggs at around 20 weeks of age and will continue to do so until around 72 weeks when they will be removed (this can be longer depending on the condition of the birds).

4.4.4 The system employed will be based on the modern Natura system which provides optimum stocking levels, good laying performance, very hygienic conditions and good monitoring facilities. The system is designed around optimum comfort for the birds so that they have an ideal supply of feed and water to ensure good laying performance. Healthy and happy hens will result in better laying levels.

4.4.5 The free range use, to gain accreditation, must comply with set location criteria, and have access to an appropriate amount of range. Current standards require strict levels of welfare at all stages of the bird's life span and these standards combine to produce a highly regulated and inspected system, welfare based, but extending to quality, freshness and traceability. Clear stocking densities are required and birds need to be maintained under the correct environmental conditions. The availability of land is thus a constraint and the climate for birds is also important.

4.4.6 A small percentage of the flock will be lost through mortality. The birds are checked regularly and any mortalities removed on a daily basis. The dead birds will be stored in vermin proof containers to await removal by an Animal Health approved contractor, or incineration on site.

4.4.7 The pullets arrive at the facility in one batch at approximately 16 weeks old and weighing around 1350g. The maximum stocking density in the new house will be 64,000 birds.

4.4.8 The environment is fully computer controlled to include feed silo weighing, multi-level light control with dusk/dawn facility, water consumption control, feed timer control, temperature sensors, and alarm system.

4.5 The Built Development and Systems

4.5.1 The eggs are collected on variable speed belts with separate motors and controls. The eggs are taken to the packhouse on covered conveyor belts to be graded on a daily basis. The birds lay in two tier nests with AstroTurf nest pads, and the eggs are conveyed onto a central egg belt. The eggs are picked up by the lorries three times a week.

4.5.2 The building extensions will result in two hen accommodation buildings each measuring 121.93m x 19.61m. Internally the houses will be divided into different areas of activity; these include a supply area, resting area, laying area and scratch area. In addition, the birds will have access to outdoor ranging areas.

4.5.3 The existing buildings and extensions are of steel frame construction with steel profile sheeting to the sides and roof. “Pop” holes will be located along the side of each building. The roof will be lined with 300mm of insulating material.

4.5.4 For the comfort and productivity of the birds the temperature within the sheds must be regulated. The ventilation will use roof mounted variable speed fans with roof mounted fresh air inlets and exhaust chimneys. The fans will operate at a variable rate dependent upon the outside temperature, and will be switched off when the sheds are vacant.

4.5.5 There will also be emergency fans built into an end wall of each shed. The gable end fans are not expected to run unless outside ambient temperature rises above 30 degrees.

4.5.6 The unit is specifically designed to house 64,000 birds in two buildings plus the egg packing building. It will have a low eaves height of just over 3 metres. Given the functional requirement for around 1 ha of land per 2500 birds, a location is required with enough land for ranging and in a position to minimise any visual impact on a particular site. The proposed site and layout meets these requirements. The proposals have also been subject to discussions in relation to complying with Environmental Permitting Regulations and a permit application has been submitted to the EA for the operation of the unit on the site.

4.5.7 No heating is required in the buildings.

4.5.8 The environment is fully computer controlled to include feed silo weighing, multi-level light control with dusk/dawn facility, water consumption control, feed timer control, temperature sensors, and alarm system.

4.5.9 The birds are fed using a chain feeder automatically 7 times a day. Nipple drinkers are used to provide unlimited access to water but reducing spillages. Feed is a mixture of Wheat, Barley, Soya, Maize Germ, Vitamin A, D3, E Selenium, Fibre, Methionine and Iysine. The mix ensures the birds are laying to optimal capacity.

4.5.10 Lighting on the site will be kept to a minimum to ensure the safe operation of the site but to reduce light spill outside the unit. Each shed will have a low-wattage, low intensity light above the openings to allow safe working during normal working hours during the winter. The hens need to be encouraged back inside the building as it gets dark to prevent loss from predators. This is a further reason to keep artificial light levels low. Internally there are nest lights with dimmer control to attract bird. The lights will not be visible from outside the building.

4.6 Site Construction

4.6.1 The poultry buildings are purpose designed for free range egg production and are relatively quick to construct on site. Some groundwork will be required and soil will be placed in temporary field heaps. The soil will either be used on site or utilised elsewhere on the farm.

4.6.2 The building extensions will be erected using specialist contractors with materials such as concrete and structural features being imported on to the site. The buildings will be fitted out by qualified electricians and plumbers. Internally the buildings will be fitted out with Big Dutchman aviary equipment by the suppliers.

4.7 Site Management

4.7.1 The management of the site will be overseen by Mr Simon Powell. TS & C Powell have been operating a successful free range egg producing enterprise on the site for many years. All staff are suitably trained and experienced in working on the site. The site will operate 24 hours a day, 7 days a week as continual husbandry and management will be required for the livestock.

4.7.2 The feed will be mixed to the appropriate requirement for the laying birds. The feed will be blown from bulk feed HGVs into the feed bins and fed directly into the buildings. Nipple drinkers will be used as they provide water on demand but minimise wastage. They also have benefits in terms of management, due to the low spillages.

4.7.3 The shed will be fully cleaned out once every 13-15 months at the end of each cycle and will generally take place over a period of 1 to 2 days. This is a frequency less than most usual livestock practices. This is due to the belt conveyor system, which allows weekly removal of manure.

4.7.4 The system uses a belt system for the removal of manure. The droppings fall onto manure belts and remains dry and friable. This allows the weekly removal of manure which is moved off site to be stored in suitable temporary field heaps to be spread on land farmed by T S & C Powell.

4.7.5 The surface water from the existing units currently discharges to a piped system, which crosses the site and discharges to nearby ditches to the north-west of the application site. The ditches connect to larger ditches which flow to the north and north-west. The surface water run-off from the proposed extensions will be collected and attenuated in separate piped systems and will have a controlled flow to the existing piped system serving the farm.

4.7.6 The sheds once empty of the birds will be provided with a final clean, although most of the manure will be removed on a weekly basis. The residual manure will be brushed out, the equipment and shed will be washed and disinfected. This dirty water will be collected in a piped system and diverted into a dirty water tank. The tank has a capacity of 2000 gallons and is considered to be ample for any one wash-down event. All waters collected will be tankered away and spread on the farmlands.

4.8 Environmental Controls

4.8.1 An Environmental Permit (EP) application has been submitted to the Environment Agency (EA) for operation of the unit on the site. Operating under an EP proves that the site has demonstrated that '*best available techniques*' will be used to minimise emissions to the receiving environment. This is defined in Article 2(11) of the European Directive as "the most effective and advanced stage in the development of activities and their methods of operation which indicate the practical suitability of particular techniques for providing the basis for emission limit values designed to prevent and, where that is not practicable, generally reduce emissions and the impact on the environment as a whole."

4.8.2 The EP will cover management, operations, emissions to water, air and land, information and production.

4.9 Decommissioning

4.9.1 The site will be maintained during the useable lifetime of the development and materials will not be allowed to deteriorate so as to cause any potential contamination. The buildings will be constructed to comply with all the relevant legislation, standards and industry good practice guides. During the design and construction phase the impact of decommissioning will be considered.

4.9.2 Before operations cease at the site, a Site Closure and Restoration Plan will be prepared. This will ensure that the site is decommissioned in an appropriate manor and restored to its former state. Much of the building material, particularly the concrete and metal, should be recyclable depending on market conditions and regulations at the time. The Site Closure and Restoration Plan will be prepared in consultation with the EA as part of the EP.

CHAPTER 5

PLANNING POLICY

5.0 PLANNING POLICY

5.1 National Planning Policy

5.1.1 The National Planning Policy Framework (NPPF) was published on 27 March 2012. The Framework replaces most former planning policy statements and guidance notes and is a key part of Government reforms to make the planning system less complex and more accessible, emphasizing sustainable development and planning for prosperity.

5.1.2 At the heart of NPPF is a presumption in favour of sustainable development, which should be seen a golden thread running through both plan-making and decision-taking. Sustainable development proposals that accord with the development plan should be approved, without delay.

5.1.3 Paragraph 7 states that there are three different dimensions to sustainable development: economic, social and environmental. In the context of the application each of these issues are assessed below:

Economic Role

5.1.4 Paragraph 17 of the NPPF sets out a number of core planning principles which should underpin both plan-making and decision-taking. One of these core principles is to *"proactively drive and support sustainable economic development to deliver the homes, business and industrial units, infrastructure and thriving local places that the country needs".* Importantly it stresses that *"every effort should be made objectively to identify and then meet the business needs of an area".*

5.1.5 Chapter 3 of the NPPF is dedicated to "supporting a prosperous rural economy" stating that:

"Planning policies should support economic growth in rural areas in order to create jobs and prosperity by taking a positive approach to sustainable new development".

5.1.6 To promote a strong rural economy, local plans should:

- Support the sustainable growth and expansion of all types of business and enterprise in rural areas, both through conversion of existing building and well- designed new buildings.

- Promote the development and diversification of agricultural and other land-based rural businesses

5.1.7 Both of these objectives are relevant and material considerations in respect of this application. In our professional view they should be given significant weight, recognising the role agriculture plays in sustaining the local economy in Shropshire. This is recognised by paragraph 19 of the NPPF stating that "significant weight should be placed on the need to support economic growth through the planning system"

Social

5.1.8 Paragraph 7 of the NPPF states that; "Development should support strong, vibrant and healthy communities….with accessible local services that reflect the community's needs and support its heath, social and cultural well-being".

5.1.9 In this instance agricultural plays as significant and important role in the vibrancy of local communities. It performs a social function as well as an economic function in rural areas and is a key element of community life and cohesion.

Environmental

5.1.10 Paragraph 7 of the NPPF states that; "development should contribute to protecting and enhancing the 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".

5.1.11 In this instance we are satisfied that the proposal protects and enhances the natural, built and historic environment for the reasons set out in the relevant sections of this Environmental Statement.

5.1.12 Accordingly it is our professional view that the development fulfils an environmental sustainability role in accordance with the requirements of the NPPF.

5.2 <u>Local Development Framework</u>

The Shropshire Core Strategy (February 2011)

5.2.1 The Core Strategy sets out the Council's vision, strategic objectives and the broad spatial strategy to guide future development and growth in Shropshire during the period to 2026. It takes a positive and proactive approach to development recognising that the characteristics of the Shropshire's labour force and economy have a traditional dependence on agriculture, with employment in agriculture being higher than the national and regional averages. Underpinning the Core Strategy is a "Spatial Vision" for Shropshire which actively promotes farm diversification recognising that agriculture and farming will still be the most prominent and successful economic sector. This is expressed through **Strategic Objective 6** which states: *"Promote sustainable economic development and growth by providing a flexible and responsive supply of employment land and premises, and….to support business development, satisfy the changing needs and demands of the Shropshire economy, promote inward investment, and help generate skilled, well paid employment opportunities"*

5.2.2 The site is located in open countryside and therefore **Policy CS5** of the Core Strategy is relevant. This policy supports agricultural related developments recognising the need to ensure proposals for large scale new developments do not have unacceptable adverse environmental impacts. Importantly Policy CS5 also supports the retention and appropriate expansion of existing established businesses. TS and C Powell is already an established and successful farming business in Shropshire and have carried out a gradual expansion of their egg production enterprise.

5.2.3 General development control criteria is set out in **Policy CS6** which applies to all development proposals. This policy criteria provides a framework for assessment of the scheme as set out in the chapters of this Environmental Statement. Policy **CS13 – Economic Development, Enterprise and Employment** recognises the continued importance of farming for food production and supporting rural enterprise and diversification of the economy, in particular areas of economic activity associated with agricultural and farm diversification. In our professional view this policy must be given significant weight given its alignment with the overarching principles and objectives of the Core Strategy read in conjunction with the NPPF. Other relevant policies are **CS17 – Environmental Networks and CS18 – Sustainable Water Management.** Both of these policies are assessed in the relevant section of the Environmental Statement and in the interests of brevity conclusions will not be repeated here.

5.3 Conclusion

5.3.1 To conclude it is considered that the scheme complies with the relevant policies of the development plan and the broader policy objectives of the National Planning Policy Framework. In our professional view significant weight should be given to policy CS13 of the Core Strategy and the necessity to support and grow the rural agricultural economy together which should be read in conjunction with Chapter 3 of the NPPF.

5.3.2 TS and Mrs C Powell are already operating a successful free range operation at the site.

CHAPTER 6

AIR QUALITY, HEALTH AND CLIMATE

6.0 AIR QUALITY, HEALTH AND CLIMATE

6.1 Potential Air Quality, Health and Climate Effects of Poultry Buildings

6.1.1 The main issue in relation to air quality, health and climate from poultry buildings is from the ventilation fans. The existing buildings currently house 32,000 birds and the proposed extension will increase numbers to 64,000.

6.1.2 There is also potential for the development to affect air quality in the following ways:

- Dust generated during site construction - this is covered in full in Chapter 10 Amenity
- Dust generated from fee delivery – this is covered in full in Chapter 10 Amenity
- Airborne pollutants from extraction fans (ammonia) and potential effect on designated ecological sites.
- Potential for odour generation from the production, storage and application for poultry manure- this is covered in full in Chapter 10 Amenity
- Emissions from vehicles travelling to and from the site – this is covered in full in Chapter 9 Highways
- Emissions of Carbon Dioxide from fossil fuel sources of carbon which can affect climate change

6.2 Consultation and Legislation

6.2.1 The application must be considered under the Habitat Regulation Assessment process in order to satisfy the Local Authority duty to adhere to the Conservation of Species & Habitats Regulations 2010 (known as the Habitats Regulations). Planning permission can only legally be granted where it can be concluded that the application will not have any likely significant effects on the integrity of any European Designated site.

6.2.2 The Screening Opinion received from Shropshire Council advised that the applicant submits an Environmental Permit application in tandem with the planning application as this will deal with issues in relation to air quality. It was also advised that odour, noise, dust and pests were covered in the ES.

6.2.3 The proposed installation will require an Environmental Permit from the Environment Agency. Shropshire Council, under Regulation 61 in the Habitats Regulations, can rely on the 'evidence and reasoning' of another competent authority. Shropshire Council can therefore use the Environment Agency modelling from the permit to complete the assessment of air pollution impacts.

6.2.4 The Environment Agency Permit should be provided by the applicant. A copy of the Ammonia Assessment should also be provided. The AST assessment sheet should contain the full modelling for all designated sites (European designated sites within 10km, SSSI in 5km and local sites in 2km). The AST assessment sheet should show the critical load/level of each designated site and the process contribution from the application as a % of the critical load / level.

6.2.5 Impact from ammonia and carbon monoxide has been covered blow:

6.3 Ammonia Emissions

6.3.1 An Environmental Permit application has been submitted to the Environment Agency and ammonia screening has taken place and summarised below. The full screening report can be seen at ***Appendix 3***.

This screening assessment has considered any Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar sites within 10km; any Sites of Special Scientific Interest (SSSI) within 5km and also any National Nature Reserves (NNR), Local Nature Reserves (LNR), ancient woodlands and local wildlife sites (LWS) within 2km of the far'. We have used the Environment Agency's Ammonia Screening Tool (AST v4.4) to assess the impact of your proposal at those sites identified within the above distance criteria. We have applied a two stage screening criteria to the ammonia screening tool results: For SAC, SPA, Ramsar and SSSIs the screening assessment has taken into account other intensive farms that could act in combination with the proposal.

Where the ammonia screening tool predicts that emissions of ammonia or ammonia deposition (nutrient nitrogen or acid) will be <Y% (see Table 1 below) of the relevant Critical Level or Critical Load, the proposal screens out of the requirement for an ammonia assessment.

Further modelling is required where:

- *emissions of ammonia or ammonia deposition (nutrient nitrogen or acid) are in excess of Z% of the relevant Critical Level (ammonia) or Critical Load (nutrient nitrogen or acid) at any particular designated site;*

- *there is the potential for an in-combination effect with existing farms at a SAC, SPA, Ramsar and/or SSSI if emissions are > Y% of the critical level or critical load;*

- *the original permit for the installation required an Improvement Condition to reduce ammonia emissions;*

- *your proposal is within 250m of a nature conservation site.*

Table 1 Screening thresholds

Designation	*Y%*	*Z%*
SAC, SPA, Ramsar	*4*	*20*
SSSI	*20*	*50*
NNR, LNR, LWS, ancient woodland	*50*	*100*

6.3.2 The Screening Results confirm that the ammonia impacts from the proposal screened out and therefore detailed modelling is not required.

6.4 Carbon Dioxide

6.4.1 The proposed poultry development will not result in any significant emissions of carbon monoxide. No heating is required in the sheds which is the main source of carbon dioxide emissions in poultry rearing and broiler houses.

6.4.2 Any carbon dioxide emitted from the poultry development would also be off-set due to the reduction in emissions from transporting eggs from elsewhere. Increasing the amount of home produced free range eggs will reduce the need for importing eggs from abroad or bringing them in from elsewhere in the UK and hence help to reduce the level of transportation required.

6.5 Conclusion

6.5.1 The nature of the receptors, nature of the development, and environmental controls built into the development mean that emissions to air should not have a significant effect on air quality or the health of local people or designated wildlife sites. Work has been carried out regarding ammonia emissions as part of the EP

application process. The Environment Agency have considered the results and are happy that there will be no negative impact from ammonia of any nearby wildlife sites.

CHAPTER 7

LANDSCAPE AND VISUAL IMPACT ASSESSMENT

7.0 LANDSCAPE AND VISUAL IMPACT ASSESSMENT

7.1 Introduction and Assessment Overview

7.1.1 The impact of the proposed development on landscape and visual amenity has been assessed in this Chapter; it also assesses whether the proposed development will have any impact on the heritage assets and designated landscapes, although heritage assets are covered in more detail in Chapter 8 Heritage Assets.

7.1.2 Natural England set out the requirement for an EIA to include assessments of visual effects on the surrounding area and landscape together with any physical effects of the development, such as changes in topography. The EIA should include use of the Landscape Character Assessment (LCA) which provides a sound basis for guiding, informing and understanding the ability of any location to accommodate change and make positive proposals for conserving, enhancing or regenerating character as detailed proposals are developed.

7.1.3 The impact assessment has included a desk based survey of the surrounding landscape and features, a baseline landscape and visual impact assessment including a desk survey, field survey and report, and an assessment of the landscape and visual impacts.

7.1.4 The landscape has been reviewed in terms of the existing landscape, and the visual resource in terms of its character, quality (condition) and sensitivity. This will form the baseline from which to assess the significance of any potential landscape or visual impact. The assessment is mostly focussed on an area of just over 1km from the site, however where appropriate features outside this area have also been considered.

7.1.5 The desk based survey has identified key viewpoints and features and identified potential visual receptors. This also included consultation of the Shropshire Landscape Character Assessment and mapping data. Field survey work was carried out in October 2015 to help assess the appropriateness of the development from assessment viewpoints. The baseline report has been included at Appendix 4 and includes photographs looking towards the proposed site from potentially sensitive locations. This has concentrated on publically accessible

areas such as roads, public rights of way, residential and recreational areas as well as heritage assets. An analysis of the baseline landscape assessment then took place to inform the assessment of residual landscape and visual impacts. This will identify the potential landscape and visual impacts (taking account of proposed mitigation measures) and their estimated magnitude, and assess their significance. The overall change in character and quality of the landscape will be assessed.

7.1.6 The LVIA has been informed by the Guidelines for Landscape and Visual Impact Assessment Third Edition, Landscape Institute and Institute of Environmental Management & Assessment (2013). LVIA is a tool used to identify and access the significance of and the effects of change resulting from development on both the landscape as an environmental resource in its own right and on people's views and visual amenity. There are two distinct components of LVIA:

- Assessment of landscape effects – assessing effects on the landscape as a resource in its own right
- Assessment of visual effects – assessing effects on specific views and on the general visual amenity experienced by people.

7.2 Landscape Sensitivity and Assessment Criteria

7.2.1 Overall landscape and visual impact will depend upon the sensitivity of the landscape but will vary according to the nature of the existing landscape, the nature of the proposed development, and the type of change being considered. The determination of sensitivity can be based on interpretation of a number of parameters; landscape value, landscape scale and the nature of the views. The following table helps to identify landscape sensitivity:

Table 7.1 Landscape Sensitivity:

Landscape Value	Landscape Scale	Nature of Views	Sensitivity
High	Small	Long distance, panoramic	High
Medium	Medium	Medium distance, open	Medium
Low	Large	Short distance, closed	Low

7.2.2 The sensitivity of visual receptors ranges from high (such as users of rights of way or local people where the development would result in changes in valued views), medium (including people travelling through the landscape), low (such as people at work) and negligible (such as views from industrialised areas). This will be

based on a combination of parameters; the location of the viewpoint, the context of the view, the activity of the receptor, frequency and duration of the view.

Landscape Assessment

7.2.3 The value of a landscape needs to be considered. Existing landscape designations is usually the starting point in understanding landscape value, but the value attached to undesignated landscapes also needs to be considered and individual elements of the landscapes such as trees, building or hedgerows may have a value. The baseline report helps to identify the components of the landscape that are likely to be affected by the scheme (landscape receptors) and any interactions between these receptors and different components of the development at its different stages including construction, operation and decommissioning. Effects of the landscape include the direct effects, and any indirect, secondary, cumulative, short-, medium- and long-term, permanent and temporary, positive and negative and are likely to include:

- Change in and/or partial or complete loss of elements, features or aesthetic or perceptual aspects that contribute to the character and distinctiveness of the landscape;
- Addition of new elements or features that will influence the character and distinctiveness of the landscape;
- Combined effects of these changes on overall character

7.2.4 Landscape effects can be positive or negative. Assessing the significance of the landscaping effects requires the consideration of the sensitivity of the landscape receptors (bearing in mind the susceptibility to change and the value of the landscape receptor) and the magnitude of landscape effects. The effect on landscape receptors needs to be assessed in terms of its size and scale, the geographical extent of the area influenced and its duration and reversibility. To draw final conclusions about significance, the judgements on the sensitivity of the landscape and the magnitude of the effects need to be combined to allow a final judgement as to whether each effect is significant or not.

7.2.5 The magnitude of change to a particular viewpoint will depend on a combination of parameters; distance of the viewpoint from the development, duration of impact,

angle of view in relation to receptor activity, proportion of field of view occupied by the development, background to the development, extent of other built development visible (particularly vertical elements). Definition of magnitude is set out in the following table:

Table 7.2 – Definition of Magnitude

Level of Magnitude	**Definition of Magnitude**
Substantial	Total loss or major alteration to key elements / features / characteristics of the baseline (pre–development) conditions such that post development character/composition of baseline would be fundamentally changed.
Moderate	Partial loss or alteration to one or more key elements / features / characteristics of the baseline (pre–development) conditions such that post development character/ composition/ attributes of baseline would be partially changed.
Slight	Minor loss of or alteration to one or more key elements / features/characteristics of the baseline (pre–development) conditions. Change arising from the loss / alteration would be discernible but underlying character /composition of the baseline condition would be similar to pre development circumstances / patterns.
Negligible	Very minor loss or alteration to one or more key elements/ features /characteristics of the baseline (pre–development) conditions. Change barely distinguishable, approximating to the “no change” situation.

7.2.6 There are no hard and fast rules about what makes a significant effect and circumstances vary with the location and landscape context, and with the type of proposal. At opposite ends of the spectrum it is reasonable to say that:

- Major loss or irreversible negative effects, over an extensive area, on elements and/or aesthetic and perceptual aspects that are key to the character of nationally valued landscapes are likely to be of the greatest significance;
- Reversible negative effects of short duration, over a restricted area, on elements and/or aesthetic and perceptual aspects that contribute to but are not characteristics of the character of landscapes of community value are likely to be of the least significance and may, depending on the circumstances be judged as not significant
- Where assessments of significance place landscape effects between these extremes, judgements must be made about whether or not they are significant

7.2.7 The following table sets out the matrix used as a guide to correlate the sensitivity and magnitude to determine the significance of the impacts. The significance is

assessed as being major, moderate, minor, or no impact. This is not a prescriptive tool and in some instances a particular parameter may be considered as having a determining impact on the analysis.

Table 7.3 – Magnitude of Change

	Magnitude of Change			
Landscape and Visual Sensitivity	**Substantial**	**Moderate**	**Slight**	**Negligible**
High	Major	Major/moderate	Moderate	Moderate/minor
Medium	Major/moderate	Moderate	Moderate/minor	Minor
Low	Moderate	Moderate/minor	Minor	Minor/none
Negligible	Moderate/minor	Minor	Minor/none	None

7.2.8 Where the landscape or visual impacts have been classified as major or major/moderate, this is considered to be a significant impact referred to in The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2011. However, significant impacts need not be unacceptable or necessarily negative and may be reversible. The potential impacts associated with the proposed development are referred to as adverse, neutral or positive where applicable.

Visual Assessment

7.2.9 The baseline study for visual effects should establish the area in which the development may be visible, the different groups of people who may experience views of the development, the viewpoints where they will be affected and the nature of the views at those points. Interrelationships with the cultural heritage topic area need to be borne in mind when developing the visual baseline and identifying visual effects. Mapping locations from where there may be views and identifying land that may potentially be visually connected with the development proposal is an important tool but does not in its own right identify the effects.

7.2.10 Viewpoints from which the proposal will actually be seen by visual receptors should be identified and these may include public viewpoints including rights of

way, transport routes and places where people work. In some instances it may also be appropriate to consider private viewpoints, mainly from residential properties. The viewpoints will fall into three groups; representative (to represent the experience of different types of visual receptor where larger numbers of viewpoints cannot be included individually such as where points are taken to represent views of users of footpaths), specific (key viewpoints such as visitor attractions, and illustrative (to demonstrate specific issues). The viewpoints should cover both near and more distant views.

7.2.11 The preparation of the visual baseline is followed by the systematic identification of likely effects on the potential visual receptors. Once the visual effects have been identified they must be assessed to determine their significance.

7.2.12 The sensitivity of visual receptors needs to be established in terms of both their susceptibility to change in views and visual amenity and also the value attached to particular views. The magnitude of visual effects needs to be evaluated in terms of its size and scale, the geographical extent of the area influenced, and its duration and reversibility. As with landscape impact, final conclusions about significance will combine the judgements about the sensitivity of the visual receptors and the magnitude of the visual effects.

Cumulative Impacts:

7.2.13 Guidelines set out that cumulative impacts '*result from additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other developments (associated or separate to it), or actions that occurred in the past, present or are likely to occur in the foreseeable future*' (Landscape Institute and IEMA, 2002: 85). The assessment needs to be kept in proportion to the nature of the project under consideration. The emphasis in EIA is on likely significant effects rather than on comprehensive cataloguing of every conceivable effect that might occur. The mitigation of any significant adverse cumulative landscape and visual effects needs to be considered.

7.3 The Site and Surroundings

7.3.1 The site and surroundings have been fully described in the baseline report at ***Appendix 4,*** along with a full assessment of the visual impact of the proposed development.

7.4 The Focus Study Area

7.4.1 The focus area involves over a 1km radius from the proposed site, although certain locations have also been considered outside this area. A map of the Focus Study Area can be seen at ***Appendix 4***.

7.5 Landscape Character

7.1 The site and the immediate surrounding area is described by the Shropshire Landscape Character Assessment as comprising of Estate Farmlands; gently rolling lowland and valley floor landscapes that occur across large areas of Shropshire. The key characteristics are mixed farming landuse, clustered settlement pattern, large country houses with associated parklands, and planned woodland character. They are medium to large scale landscapes with framed views.

7.1.1 The Character Area has been fully considered in the baseline report at ***Appendix 4***.

7.2 Landscape Context and Consultation

Designated Landscapes

7.2.1 The development does not fall within any designated landscape. The Historic Environment Record (HER) was also consulted and no record of any heritage landscape designations were found.

7.3 Project Description and Mitigation Measures

7.3.1 The project involves the extension of existing poultry buildings at Burlton Lane Farm and also the erection of an egg packing building between the two buildings. The extension will be 12.2m in length (2 bays) and allow the buildings to be re-fitted with a multi-tier system. The extension will be the same height and width as

the existing buildings. The extensions will be to the far ends of the sheds from the farm buildings and situated on areas of concrete associated with the existing sheds. A full project description can be seen in Chapter 4 of this report. The buildings are purposefully designed for free range egg production.

7.3.2 During the construction phase there will be some very minor effects on the landscape and visual amenity. As the site is flat and the extensions are on existing concrete areas there will only be a small element of soil removal for the groundwork.

7.3.3 There is limited landscaping work that can be carried out around free range poultry buildings and trees can provide cover for predators. However, limited planting can take place on the periphery of the ranging area. Bunds around the buildings are not suitable due to the requirements for the flat ranging area around the buildings.

7.4 Assessment of Residual Landscape and Visual Effects

Direct Impacts

7.4.1 The site is on the existing poultry unit at Burlton Lane Farm. The proposed development would not result in the loss of any important landscape features, and there would be no significant change in landscape cover as a result. The overall sensitivity of the site in relation to direct changes as a result of the development is considered to be low.

7.4.2 The proposal will result in a slight increase in the built environment of the site through the extension of the poultry units and erection of the packing unit in between.

7.4.3 It is considered that the magnitude of change associated with the potential direct impacts of the development would be slight/negligible due to the minimal number of sensitive receptors around the site and the limited nature of the development. This original site was chosen taking full regard to the visual impact of the development. The buildings could not be extended to the front ends as this would be more difficult in terms of building work and would also result in the buildings being too close together. The packing unit will however fit between the buildings.

Landscape Character

7.4.4 In addition to the development having an impact on the character of the application itself, impacts on the landscape character type within which the site is located is more variable. The Landscape Character types have been described in the baseline report at ***Appendix 4*** and the potential impacts on the perception of each character type set out below:

7.4.5 Estate Farmlands:

The site sits within a relatively large area of Estate Farmlands and as such the proposed development has the potential to impact this character type. The baseline report concludes that the existing buildings are visible from some locations within the surrounding landscape, however due to the scale and nature of the poultry buildings this cannot be completely avoided. The extensions and packing unit will not materially affect the nature of the site and represent only a small increase in the built form of the farm complex and poultry units. The topography of the area and existing features help to reduce the visual impact of the buildings and they are only visible from certain near locations within the landscape type. The proposed extensions and packing house will not affect this.

The existing buildings are a feature from near locations within the Estate Farmland character type, however the extensions and packing house will not introduce a new feature or different structure type. The landscape type includes mixed farming land use including poultry units. It is considered that within this landscape character type the magnitude of the change resulting from the extensions to the buildings associated with the perception of landscape character would be slight/negligible, resulting in minor to no effect on landscape character. Any adverse effects will be localised and limited to locations in close proximity to the proposed development. Many of these are not accessible to the public as are on land owned by the applicant.

The other landscape character types identified in the Baseline LVIA Report are Lowland Moors and Enclosed Lowland Heaths. Due to the separation distance, intervening features and nature of the proposals, it is not considered that the development will have a significant effect on these landscape character types.

Heritage Assets

7.4.6 The heritage assets within a 1km radius have identified in the Baseline Report at ***Appendix 4***. These have also been more fully assessed in the HIA at ***Appendix 5***.

7.4.7 There are no designated heritage assets with in the application site. The only non-designated heritage assets within 1km of the site are Burlton Lane Farmhouse and the converted barns to the south of the farmhouse. These are some distance from the poultry units and largely hidden by the existing late 20th Century farm buildings in between. The impact of the relatively limited extension to the existing units will have little or no impact on the character, setting or significance of these assets. Further afield, there are no designated or non-designated heritage assets close enough to be impacted by the proposed extensions to the poultry sheds.

7.4.8 The potential impact on heritage assets is covered fully in Chapter 8, Historic Environment and Archaeology.

7.5 Assessment of Potential Visual Impacts

Overview of the Development

7.5.1 Planning policy generally supports agricultural development which has regard to any potential impacts on landscape character and visual amenity. Large scale agricultural development needs to fully consider and mitigate any potential impacts. The proposals have been developed to provide a solution that meets with policies of rural economic sustainability while minimising the potential for adverse impacts on landscape character and visual amenity.

Visibility Analysis

7.5.2 Views from public roads, footpaths and dwellings are limited by existing buildings, hedgerows, trees and landform. As the application involves the extension to the existing buildings the baseline LVIA assessment has assessed views of the existing poultry buildings.

7.5.3 There are limited views of the existing poultry units due to intervening landscape features, the low profile nature of the sheds and their situation behind the farm buildings. There are also limited receptor locations. The LVIA survey found that

the main views of the existing buildings are from the public footpath to the west of the farm and also the A528 as you go past the site. The views from both of these are mostly close to the site and become obscured as you get further from the farm. Views from public roads are limited due to the nature of the roads themselves and the substantial roadside hedges which are a feature in the area. Similarly views from footpaths are limited by intervening landscape features including boundary hedgerows and trees.

7.5.4 The closest residential property to the poultry buildings is Burlton Lane Farmhouse which is occupied by the applicant. Numbers 1 and 2 Old Barns are to the east of the farmhouse. Views from these properties are restricted by the position and orientation of the existing farm buildings and farmhouse. The poultry buildings are low profile with lower roof heights than many agricultural buildings. Views from Greenfields to the north are restricted by intervening landscape features including boundary hedgerows and also the tall garden hedge and trees around the curtilage. The only other dwellings with views of the existing poultry buildings are on the northern fringe of the village of Myddle. These are however fairy distant and restricted by the existing farm buildings. No access was gained into any of the residential properties.

7.5.5 It can be difficult to landscape free range poultry units as the area around the building needs to be used as a ranging area for the birds; in addition if too many trees are planted within the ranging area it could provide cover for predators. It is also noted that poultry buildings of this nature are commonplace within the area, and with appropriate design of the unit it is not expected to impact on the character of the landscape. Poultry buildings are also low profile which will reduce any visual impact from residential properties. For these reasons no additional landscaping is proposed.

7.5.6 The proposed development represents a small increase in the built form of an existing poultry site. It will not result in a new features in the area, and many views will be unaffected by the development. It will bring the end of one of the sheds closer to the footpath running to the east but the views will not be materially affected. Views from the roads will be largely unaffected as the buildings will be extended away from the existing yard. Similarly the existing site can be seen from some residential properties in the area, however none of these directly overlook the site and the proposed development will have little impact on the views from

these properties. The egg packing unit is slightly higher than the low profile poultry buildings but is situated in between the units and behind the existing farm buildings.

7.5.7 It is felt that the magnitude of change from the nearby residential properties, roads and footpaths will be slight and the significance of any impact minor.

7.6 Conclusions

7.6.1 The direct effects on landscape will be limited. The proposed development relates to the extension to an existing poultry unit, there will not be a significant increase in the built form of the site, and no important landscape features or elements will be lost as a direct consequence of the development. As the site lies within an agricultural landscape relating to an existing poultry unit, the proposed development will be compatible with its surrounding area and other agricultural land uses.

7.6.2 With regard to indirect effects and the perception of landscape character, it is considered that the proposed development will have minimal effect on the Estate Farmlands on which the site is located. This is already an agricultural landscape with large farm buildings including poultry units.

7.6.3 The impacts on visual amenity have been assessed and considered to be minor. The landscape is capable of accommodating the development and given the location it is not considered that any further significant landscaping or screening measures will be required. It is difficult to provide a large amount of landscaping around free range poultry units due to the ranging area requirements. Trees and shrubs can provide cover for predators and bunds are inappropriate due to the requirement for a flat ranging area.

7.6.4 Overall the landscape and visual assessment has established that the proposed poultry installation will have a limited effect on the baseline conditions in terms of both landscape character and visual amenity. The proposed development is considered to be acceptable with regard to the potential effects on landscape character and visual amenity.

CHAPTER 8

HISTORIC ENVIRONMENT AND ARCHAEOLOGY

8.0 HISTORIC ENVIRONMENT AND ARCHAEOLOGY

8.1 Introduction

8.1.1 This chapter provides an assessment of the potential impacts the proposed development may have on any nearby designated and non-designated heritage assets; this is also considered as part of the Baseline Landscape and Visual Impact Assessment (LVIA) at ***Appendix 4***. A Heritage Impact Assessment (HIA) has been carried out by Richard K Morriss of Richard K Morriss & Associates, Historic Buildings Consultants. This involved desk based research and a field-walking exercise to assess the potential heritage impact of the proposals and to recommend suitable mitigation measures. The full report can be seen at ***Appendix 5*** and the results assessed in this chapter.

8.2 Historic Environment Record (HER)

8.2.1 The HER has been consulted and used to inform the HIA.

8.3 Methodology

8.3.1 The purpose of a Heritage Impact Assessment (HIA) is to meet the relevant guidance given in the NPPF. This outlines the need to inform the planning decisions that need to be made when considering proposals that have the potential to have some impact on the character or setting of a heritage asset. It is not concerned with other planning issues. Under the requirements of the NPPF, the still current advice in the notes that accompanied PPS5, and of other useful relevant guidance, such as English Heritage's *Conservation Principles* and *Informed Conservation,* it is necessary to assess the significance of the designated and non-designated heritage assets involved, to understand the nature and extent of the proposed developments, and then to make an objective judgement on the impact that proposals may have.

8.3.2 The degree of impact a proposed development could have on such assets is variable and can sometimes be positive rather than negative. The wide range of possible impacts can include loss of historic fabric, loss of historic character, damage to historic setting, and damage to significant views. The HIA will assess whether the proposed development will have any impact on the setting of heritage assets and if so, the degree of such impact. The HIA includes a definition of setting.

8.3.3 The HIA considers the setting and history of the site and surrounds, before carrying out a Heritage Impact Assessment including:

- Impact on designated heritage assets in the study area
- Impact on designated heritage assets adjacent to the study area (including ancient scheduled monuments)
- Impact on non-designated heritage assets in the study area
- Impact on non-designated heritage assets adjacent to the study area
- Archaeology

A full description of the study area can be seen in the HIA. The HIA considers the level of magnitude of any impact on the character, setting, or significance of designated or non-designated heritage assets.

8.4 Setting

8.4.1 A farmstead is shown at Burlton Lane Farm on the original OS drawings from 1817. A full description of the setting and the outline history can be seen in the HIA at ***Appendix 5***. As the existing sheds and the proposed works are within expanded curtilage of the main farmstead, the 'development site' is considered to include not just the poultry unit complex but the rest of the enlarged farmstead as well.

8.5 Impact on Heritage Assets within the Development Site

8.5.1 There are no listed buildings, scheduled ancient monuments, conservation areas or other designated heritage assets within the study area. There can therefore be no impact on such assets.

8.5.2 With regard to non-designated heritage assets, the farmhouse was provisionally listed Grade III in the early 1950s – a grade that was not statutory and which has effectively been abandoned. The farmhouse was not upgraded to the statutory Grade II. The farmhouse is some distance from the poultry units and they are largely hidden by the late 20th Century farm buildings in between. The impact of the relatively limited extension to the poultry units will have little or no impact on the character, setting or significance of the farm house.

8.5.3 The former farm buildings to the south of the farmhouse were also separately provisionally listed Grade III. They have since become agriculturally redundant

and been mainly converted into residential use. The barns are further from the poultry units than the farmhouse with the late 20th Century farm buildings in between. The impact of the relatively limited extension to the poultry units will have little or no impact on the character, setting or significance of the barns.

8.6 Impact on Heritage Assets Adjacent to the Proposed Development Site

8.6.1 The poultry units are situated in a fairly isolated countryside surrounding with hedgerows and trees to all sides except for the south which faces the late 20th Century farm buildings.

There are no designated or non-designated heritage assets within approximately 1km from the site boundary. Slightly further afield, the biggest concentration of designated heritage assets is in Myddle which has a scheduled ancient monument and several listed buildings including the church and Red Lion Inn. There are no designated or non-designated heritage assets close enough to the proposed development to be impacted by the extensions of the poultry sheds. Furthermore the HIA has stated that even if there was some assets nearer to the site, the proposed extensions would only impact in a limited manner because of the fact they are relatively small in proportion to the existing sheds and the added impact would be limited.

8.7 Archaeological Impact

8.7.1 The area has been agricultural for centuries and there are no indications of any archaeological features, buried or otherwise on the site. There was a medieval park attached to the castle in Myddle, but this was located to the south of the village.

8.7.2 Extensive ground works were required for the erection of the existing poultry sheds. The ground works appear to have extended beyond the existing concrete aprons around the sheds.

8.7.3 The extent of the proposed development is fairly limited and will be mainly on existing concrete aprons. There will be new concrete aprons around the extensions but the groundworks required for these will be limited in depth and extent, partly due to the works already undertaken. The HIA therefore considers that the archaeological implications of the proposals are limited.

8.8 Conclusions

8.8.1 The HIA prepared by Richard Morriss concludes that the proposals will have very limited, if any impact on designated or non-designated heritage assets within or adjacent to the proposed development site.

8.8.2 Due to the extensive groundworks that have already taken place and the limited nature of the proposed poultry unit extensions, it is considered that no further archaeological investigation work is required in this case.

8.8.3 The predicted magnitude of change on heritage assets is therefore negligible resulting in none/minor effect which is not significant.

CHAPTER 9

HIGHWAYS

9.0 HIGHWAYS

9.1 Introduction

9.1.1 The environmental impacts of the proposed development in relation to traffic movements and the surrounding highways has been assessed. A Highways Statement has been prepared by Woodsyde Developments Ltd and has been included at ***Appendix 6*** of this report.

9.2 Legislation and Policy

9.2.1 The NPPF promotes sustainable transport and a reduction in the need to travel. Developments which generate significant amounts of movements should be supported by a transport statement or transport assessment. Paragraph 32 sets out that plans and decisions should take account of whether:

- *The opportunities for sustainable transport modes have been taken up depending on the nature and the location of the site, to reduce the need for major transport infrastructure;*
- *Safe and suitable access to the site can be achieved for all people; and*
- *Improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be refused on transport grounds where the residual cumulative impacts of development are severe.*

9.2.2 Paragraph 34 sets out that,

"Plans that generate significant movement are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised. However this needs to take account of policies set elsewhere in the framework, particularly in rural areas".

9.3 Methodology

9.3.1 The assessment has been carried out in accordance with the DfT's 'Guidance on Transport Assessment' (2007). This Guidance makes it clear that the assessment of trips should either be based on one of the trip rate database tools or be constructed from first principles based on a detailed analysis of the daily operation of the proposed development.

9.3.2 A Baseline Traffic Assessment has been completed based on data relating to the applicant's existing business. Access to the site will be directly from the Access to the site is direct from the A528, which runs between Shrewsbury and Ellesmere. From visual assessment the A528 is of good width, alignment and forward visibility and is considered suitable to receive the likely traffic generated by this proposal. The existing access was substantially improved at the time of the construction of the existing poultry sheds in terms of the access geometry and junction visibility. It is noted that the site was a former operable dairy farm. The stone and brick barns have been converted to residential properties which are served by means of a separate access.

9.3.3 It is likely the A528 carries a relatively high number of daily traffic, whereby the small increase of traffic generated by the proposals can be satisfactorily accommodated on the highway network. Given the locality and nature of the classification of road fronting the site it is assumed that a reasonable percentage of the traffic movements will be heavy goods vehicles and tractors, trailers and other agricultural vehicles. This is likely to be between 15-20%. Moreover given the nature of the surrounding area the traffic will be spread throughout the day and will likely see some night movements.

9.3.4 The current vehicle movements associated with the existing poultry unit are typically as follows:

Movements	**Week**	**Year**	**Vehicle type**
Birds in (out)	4	4	HGV
Feed delivery	1.17	61	HGV
Egg collection	2	54	HGV
Manure	1.4	73	Tractor and trailer
Staff	7	365	Car

9.3.5 The next section involves Traffic Generation and Assignment (including construction/demolition traffic generation) which documents and is used to estimate the trip generation and assignments likely to result from this development proposal. The expected trip generation from this development has been estimated using industry provided information regarding the inputs and outputs as well as extensive experience. The existing vehicle movements associated with the existing free range unit have been assessed. With poultry farming the movements

are concentrated around certain activities during the production cycle. Bird delivery and removal takes place over 2 days each operation. Once the birds are in place they stay on site for between 13-15 months depending on the condition of the birds. Manure is emptied during the week which equates to a tractor and trailer movement every 4-5 days.

9.3.6 A robust assessment has been compiled that takes no account of trip savings. This statement represents the baseline figures associated with the development proposal as a poultry unit. These measures have been used in the intention that a clear and unequivocal assessment is made for a worst case scenario.

9.3.7 Table 9.1 below sets out additional detail into HGV trips and tractor movements have been calculated.

Table 9.1 – Traffic Generation

Movement Type	Details	Source of Information
Movement of feed	Derived by establishing the daily feed intake and calculating a requirement over the crop period for a whole flock	Based on existing figures for an existing unit
Delivery of birds	Derived by establishing how many birds are transported per load	Information calculated from existing site
Removal of birds	Derived by establishing how many birds are transported in one load	Information calculated from an existing site
Movements of manure	Derived from known quantities from existing and estimating the maximum number of loads that could be removed per day	Derived from known details and experience of dealing with the existing site
Deliveries of feed	Derived from known quantities from existing shed and needs	Derived from known details and experience of dealing with the existing site
Removal of eggs	Derived by establishing likely output throughout the cop period	Derived from known details and experience of dealing with the existing site
Employees	Derived by calculating the employee requirements per annum	Comparable sized reference site used to determine the number of employees required
Vets, engineers, EA		Cross checked against existing and other poultry sites in the ownership of the Applicant and across Shropshire

Trip Assignment

9.3.8 In terms of assignment it is predicted that all of HGVs will enter and leave the site direct from the A528 via the existing access.

9.3.9 The assignment of manure removal tractors and trailers will be to land owned by the applicant in the vicinity. All manure will be taken from site weekly to reduce impacts on the highway network. Given the nature of the operation there is not considered to be a significant peak hour loading in terms of traffic.

Construction Traffic

9.3.10 Construction traffic was derived from estimating the maximum numbers of construction workers and material deliveries to the construction site given the nature of the proposals and the construction programme. It was assumed that decommissioning traffic would be similar to that for construction.

Traffic Impact Assessment (Highway Suitability and Junction Safety)

9.3.11 The condition of the existing highway were assessed by carrying out a detailed visual inspection of the road and assessing the existing inter-visibility between road users, the width of the highway and the suitability of the existing junctions.

9.3.12 In summary, the methodology adopted considered the baseline conditions, and then assessed these against the proposals. The effects have been assessed on the following basis:

- Negative – deterioration in local conditions or circumstances;
- Positive – improvement in local conditions or circumstances;
- Neutral – no change in local conditions or circumstances.

9.4 Baseline Conditions

Road Network and Highway Safety

9.4.1 The site is accessed directly from the A528 Principal Road. This road could be termed as a collector road, whereby it collects traffic from the outlying hamlets and villages and other properties and provides access to higher order roads and larger towns

9.4.2 The A528 road has a suitable width, alignment and overall visibility to allow all two way traffic without delay. The existing access has adequate width to receive all traffic likely generated by the proposal and the junction visibility splays are considered to accord with the speed of traffic along the site road frontage. It is noted that this section of the A528 in the vicinity of the site travels through a number of curves and bends. The frontage to the site is on a relatively straight

section. In this regard it is not likely that the speed of traffic passing the site road frontage are travelling at the national speed limit which is in force. It is considered that the existing access arrangements and existing visibility splays are appropriate for this development and extension of the existing poultry units. The majority of the vehicles associated with the prosed site will be either HGV or tractor/trailer, their vision in terms of visibility will be significant by being able to see over existing hedges along the road.

9.4.3 It is understood there are no recorded accidents in the immediate vicinity of the proposed site access.

Current Traffic Condition

9.4.4 There is an existing free range poultry unit at Burlton Lane Farm and the majority of vehicles attracted to and associated with the site are HGV or tractor/trailer.

9.4.5 From observations it is considered that during peak hours, the local highway network assessed operates well and experiences no congestion. The peak hours are generally considered to be between the hours of 8.00 – 9.00am and 17.00 – 18.00pm, typically when passage to work and schools are the greatest.

9.4.6 Further details can be seen in the Highways Statement at ***Appendix 6***.

9.5 Prediction and Assessment of the Potential Impacts

9.5.1 The Highways Statement has set out the following:

Construction/Decommissioning – Generated Traffic

9.5.2 Traffic estimates of construction traffic volumes are summarised in table 9.2 below.

Table 9.3 – Estimated Construction Traffic Movements

Type	Estimated Number of Movements only
Stone	20
Concrete	8
Steel Sheeting/Timber	4
Employees	Approx. 6 per day for 2-4 weeks during weekdays

9.5.3 It is expected that the construction timescale will be approximately 1-2 months. It has been assumed that traffic levels during the decommissioning period would be similar to that during construction.

Operation – Generated Traffic

9.5.4 The Highways Statement sets out in detail the traffic movements that will be generated by the proposed poultry development and how these have been derived including the following:

- Bird Delivery
- Bird Depletion
- Feed Delivery
- Mortality Collection
- Egg Collection
- Manure Collection

9.5.5 A summary of these movements can be seen table 9.4 below.

Table 9.4 – Summary of Traffic Source Data

Activity	**Frequency**	**No. trips**	**No. Traffic Movements (2 way)**	**No. Traffic Movements (1 way) per crop**
Delivery of pullets (8,000 per lorry)	Every 15 months	8	16	16
Delivery of feed (HGV Artic)	2.2 x weekly	2.2	4.4	132
Collection of eggs (HGV)	3 x weekly	3	6	240
Collection of manure (T&T)	1 x weekly	1	2	360
Fallen stock collection	Every 3 months	1	2	8
Collection of end of lay hens	Every 15 months	8	16	16
Traffic total				**772**

9.5.6 When the proposed free range egg production unit is in full production, then on a weekly basis there would be around 6 vehicle movements per week (12 two way vehicle movements). As detailed in the above table these would be made up of 2.2 feed delivery, 3 egg collections and 1 manure collection. There will not likely be an increase of traffic movements associated with Fallen Stock or Staff than currently exist with the site.

Peak Daily Event

9.5.7 Typically it is estimated that there would be two days of peak activity:

1. Population of sheds – 16 movements (two days)
2. Depopulation of sheds – 16 movement (two days)
3. Manure removal – 2 movements per week

(N.B. 2 movements equates to one vehicles, one movement in, one movement out).

Movements Outside of the Peak Periods

9.5.8 Given the nature of the proposals and likely movements of the traffic generated by the proposals, the movements will be outside of the normally accepted peak hours. HGV's associated with the population and depopulation of the birds will likely be outside the peak hours when there is expected to be less traffic on the highway. Nonetheless it is not believed that there are any capacity issues with the A528 or the wider highway network such that it could not suitably accommodate the predicted traffic from the development.

Safety

9.5.9 In preparing this statement careful consideration has been given to the nature of the existing road, the level and nature of the existing traffic currently thereon, the existing road conditions and the type, number and level of proposed improvements to the road.

9.5.10 The A528 road typifies the character of main roads in Shropshire. It has a number of straight sections with gentle bends and generally satisfactory forward visibility and of satisfactory width to receive all types of traffic.

Cumulative Impact Assessment

9.5.11 When assessing the overall increase in traffic for a 60 week duration, against the background of the existing site traffic there will be an overall increase of 4 HGV movements associated with the birds in and birds out, 1.03 HGV's per week for feed (124 two way), 1 HGV per week for egg collection (120 two way), 1 T& T per week for manure (120 T & T two way).

9.5.12 Due to the nature of the proposal and the times that the likely small increase in HGV's will be on the road from the proposed extension to the unit and multi-tier system proposed. However, given the nature of the A528 Principal Road and likely existing levels of traffic, the proposed predicted traffic set against the existing traffic will not be significant. In this regard therefore it is considered that there will be no detrimental effect on the traffic loading to the road, such to be detrimental to the free flow and safe movement of the traffic

9.5.13 It can therefore be concluded that the cumulative impact of HGV vehicles or tractor and trailers on the A528 principal road is not significant.

Public Transport

9.5.14 Due to the nature of the site proposals, public transport service provision will unlikely be an attractive option for potential site staff. The site is fairly rural and whilst there is a regular bus service along the A528 road is not likely to be a suitable means of transport for the site use.

9.5.15 The closest rail station is in Yorton and Wem where services connect to Crewe and Shrewsbury. Due to the nature of the development proposed, it is unlikely that the rail service will have any significant impact on transport issues on their own. It is highly unlikely that any deliveries or employees will utilise this means of transport.

9.5.16 Additionally cycling can be considered as an alternative to the use of the private car, particularly for employees.

Sustainable Travel

9.5.17 The site will be managed by the applicant and staff, who live within close proximity to the site. Travel distances will therefore be reduced to the absolute minimum.

Planned Transport Improvements

9.5.18 As far as it is understood there are no planned highway improvement schemes by Shropshire Council for the A528 in the vicinity of the site.

Incorporated Community Benefit

9.5.19 Careful consideration has been given to the likely increase in traffic set against the existing traffic and access to the site. The existing access can accommodate all likely traffic movements associated with the poultry unit and will allow the simultaneous entry and exit of vehicles to and from the site.

Planning Conditions

9.5.20 As the site is in a rural location and there is no frontage development on the immediate highway network, it is considered that there should be no restrictions on bird delivery for shed stocking, bird removal or the removal of poultry manure. However, the removal of poultry manure shall not take place at any time during a Sunday, bank or public holidays. It is considered that the visibility improvement could be subject of an appropriately worded planning condition.

9.5.21 Construction works shall not take place at any time during a Sunday, bank or public holidays.

9.6 Conclusion

9.6.1 The assessment has given consideration to the level of the proposed traffic movements likely generated by the development against the likely traffic on the A528 principal road. It is considered that the proposed development will result in a net overall weekly increase of only approximately 3 movements (6 two way) per week over the cropping period.

9.6.2 The manure removal will be dispersed locally on land owned by the applicant and will not have a significant impact. The use of the manure on the applicant's lands will result in a loss of manures and fertilisers brought to the farm.

9.6.3 It is concluded that the vehicle movements generated by the development will be conveniently accommodated on the highway network. It will have only a very limited impact of no significance on the local highway conditions. The existing access will allow all vehicles to safely turn on and off the highway network and will therefore reduce any impact on the flow of traffic on the highway and increase the safety condition for all road users.

9.6.4 Based on the analysis provided at this Chapter and the Highways Assessment at ***Appendix 6***, it is concluded that there does not appear to be any significant transport related reason why this site should not be granted Planning Permission.

CHAPTER 10

AMENITY

10.0 AMENITY

10.1 Introduction

10.1.1 The proposed poultry extension development at Burlton Lane Farm has the potential to cause amenity issues in the surrounding area. The issues of dust, flies and vermin have been assessed in relation to the development, whilst noise and odour issues have been covered in separate Chapters. The nuisance caused by these issues has the potential to impact on the local population.

10.1.2 Statutory nuisances are regulated by Part III of the Environmental Protection Act (EPA) 1990. The powers allow for action to be taken by local authorities or individuals against statutory nuisance that exists or is likely to occur or reoccur. Statutory nuisances include smoke, fumes or gases emitted from premises, any dust, steam, smell or other effluvia arising on industrial, trade or business premises, which are prejudicial to health or a nuisance. There is a defence of using Best Available Techniques (BAT) to prevent the nuisance or counteract its effects together with a reasonable excuse, however, the granting of planning permission is not a defence.

10.1.3 The NPPF sets out in Chapter 11, Conserving and enhancing the natural environment, that when considering the location of new development, the effects (including cumulative) of pollution on health, the natural environment or general amenity, and the potential sensitivity of the area or proposed development to adverse effects from pollution should be taken into account.

10.1.4 In this Chapter, the types and sources of potential nuisances are identified and assessed against the potential sensitivity of individual receptors; this is based on the nature and proximity to the activity, and also general wind direction and nature of the receptor. Risk Assessment Tables are used to identify sources, receptors and pathways in relation to potential amenity issues. The tables are based on guidance relating to intensive farming (from the Environment Agency's (EA's) 'Simple assessment of environmental risk for accidents, odour, noise and fugitive emissions (EPR – H1) – Version 080328 (March 2008)) and includes comprehensive management plans based on accepted guidance and Best Available Techniques (BAT). The tables can be seen at ***Appendix 7***.

10.2 Baseline Environment and Sensitive Receptors

10.2.1 The proposals relate to the extension of existing poultry buildings and the increase in hen numbers from 32,000 to 64,000 layers. The land currently forms part of the existing poultry site and is mostly already down to hardstanding. The existing poultry buildings are situated immediately to the west of the yard and farm buildings at Burlton Lane Farm. There are further agricultural dwellings and rural holdings in the locality. The closest residential dwellings are the farmhouse at Burlton Lane Farm (occupied by the applicant), and numbers 1 and 2 Old Barns to the east of the farm. The farmhouse and barns will be closest to the extension of the south building which is around 210m from the house and 225m from the barns. The only other dwelling within 400 metres is Greenfields around 300 metres to the north. The village of Myddle (to the closest houses) is around 830m to the south of the farm and Burlton is approximately 1km north.

10.2.2 Burlton Lane Farm is accessed directly off the A528 opposite the minor Council maintained road towards Brandwood. The farm track splits off to access the house, buildings, and poultry unit. The road at its closest is approximately 185 metres from the poultry buildings. There are public rights of way within the vicinity of Burlton Lane Farm. The closest of these runs to the west of the farm in a north-south direction and at its closest is approximately 100m from the poultry site. This links to other footpaths and roads in the area.

10.2.3 The prevailing weather/wind direction is from a south westerly direction.

10.3 Mitigation Measures

10.3.1 Standard odour, dust, vermin and fly management controls will be put in place; these are integral to the design of the poultry buildings and management operations will be in accordance with the Best Available Techniques. The site will operate under an Environmental Permit (EP), issued by the EA. The purpose of the EP is to demonstrate that the site will operate in accordance with the Best Available Techniques in order to minimise emissions to the receiving environment. Further details can be seen at Chapter 4. Mitigation measures have been taken into account when considering potential amenity issues.

10.4 Flies

10.4.1 TS and Mrs C Powell already produce free range eggs at the site Mr Powell is experienced in poultry management. The sheds will be re-fitted with a Big Dutchman Natura 284 system (multi-tier) aviary. The multi-tier aviary systems are suited to extension and refurbishment projects as they are based on a modular system. The system has been developed to allow the birds to follow their natural behaviour patterns whilst giving optimum efficiency and production for the producer. The multiple levels of the system enable 100% of the shed floor area to be used for litter. Manure belts situated below the raised platforms ensure the birds are not exposed to their droppings – the hens remain cleaner and healthier. The temperature within the sheds can be maintained at a more constant level throughout the year, thereby reducing stress to the birds. Regular removal of manure maintains a superior air quality to that achievable within flat deck systems.

10.4.2 Fly statements will be produced to take account of the increase in hen numbers; these provide information and procedure regarding the control of flies and fly larvae. Management and monitoring measures will be extended to encompass the extensions to the buildings to ensure that the possibility of fly nuisance is fully mitigated against.

10.4.3 Due to the rotation of grassland, birds occupy the ranging areas for a short period of time, meaning that there is no build-up of detritus outside the houses. Inside the droppings fall onto manure belts and remain dry and friable, thus allowing the weekly removal of the droppings off site in a trailer, to be used as natural fertiliser. The shed will be fully cleaned out using a dry clean method every 13 months.

10.4.4 Fly levels in and around the buildings will be monitored. Generally most flies and larvae are eaten by the hens, and the lack of manure build up means that larvae cannot grow and develop. However, if at any point fly numbers are found to be excessive, management measures will be employed to mitigate the problem.

10.4.5 Manure Storage – this is important when preventing fly infestations as it can be attractive as a breeding site. By reducing moisture levels in the manure (to around 30%) flies will not find it suitable for laying eggs. Frequent inspections of storage sites are required to ensure there is no fly activity, as even manure that is produced, transported and delivered in a dry, fly free condition can sometimes become infested. There will be careful management and monitoring of any manure stockpiles, although the management practices will minimise the need to stockpile by spreading and incorporating into the land within a short time frame.

Any stockpiled manure will be checked once a week between April and October inclusive to ensure there is no fly activity in the manure. If on these inspections, any fly larvae are found in the manure, immediate steps will be taken to control the fly and larvae populations. The methods to be used for control are those recommended in the *'Code of Practice for the Use of Poultry Manure'* and *'The Schedule for Free Range Poultry Units'*; this includes keeping records of inspections, covering stockpiles at the first sign of fly activity (sheeting raises the temperature which kills and flies and larvae), ensuring the manure remains covered for at least ten days, and during the summer months of May to September not to store manure near to residential areas.

10.4.6 The number of flies and larvae observed during each check will be recorded using fly and larvae count tables. If the applicant wishes to carry out any steps not outlined in the schedule these will be agreed in writing by Shropshire Council prior to operation.

10.4.7 Feed storage – flies will be attracted to animal feed as breeding areas if it is stored in unsuitable buildings or storage bins; this will be designed out of the poultry buildings at Burlton Lane Farm have modern feed storage systems to meet the requirements of the Food Hygiene Regulations and the 'Red Tractor' Farm Assurance Standards.

10.4.8 The main source of fly nuisance is from the storage of manure, the pathway is through self-dispersal over air, and the impact is general annoyance and the possibility of spreading disease. There is a slight occasional risk that spreading during the summer could introduce a further potential source of flies, although spreading is already taking place using manure from the existing poultry buildings.

10.4.9 In conclusion, there should not be a risk be a risk of fly problems from the development itself, although there could be a number of sensitive receptors close to where manure spreading is taking place. Control measures and mitigation methods will however limit the effect of flies.

10.5 <u>Vermin</u>

10.5.1 The main issue with regard to the potential for vermin on the site is the storage of feed; this is however limited however through modern feed storage systems to meet the requirements of the Food Hygiene Regulations and the 'Red Tractor' Farm Assurance Standards. Regular checks of the site will be carried out to

assess for the presence of any animals that could be considered to be vermin. All employees will be fully trained to deal with vermin control and further advice can be sought from Shropshire Council if required.

10.5.2 The main source for vermin is feed storage, the pathway is self-dispersal over land, and the potential impacts are general annoyance and the need for control and spread of disease. Mitigation will include storage of feed in sealed containers, maintenance of the feed containers to prevent deterioration, and fast removal of any feed spillages.

10.5.3 In conclusion, vermin are only a potential risk in close proximity to the source and it is expected that no significant vermin impacts will result from the proposed poultry development. The separation distance from the site and potential receptors will be too far to cause any loss of amenity and the development will therefore not have a significant impact.

10.6 Dust

10.6.1 The main sources of dust from poultry buildings are the birds themselves and the food. Dust levels have been found to vary depending on the number of birds, their age and the activity levels within buildings. The particle size of the dust will also vary, although in general particles smaller than 2 microns (2 um) will account for around 70% of the number but only 5% of the mass; larger particles of greater than 5 um will account for less than 10% in number but between 40% and 90% of the dust mass.

10.6.2 Dust particles can be emitted into the atmosphere through the ventilation systems, so the potential impact is greater during the summer months when the fans will be operating at a higher rate. Dust baffles can however be used over the ventilation fans to avoid any dust becoming airborne. The larger dust particles will tend either to not get into the ventilation fans, or if they are expelled from the building will be immediately deposited on the ground. Smaller particles can be carried in the wind; as the distance from the site becomes greater, the concentration of dust will fall to a level below air quality guidelines and become indistinguishable from normal background dust levels.

10.6.3 As well as through the ventilation system there is also the potential for dust from surfaces around the site, particularly where there are vehicles and when the weather is windy.

10.6.4 The pathway for the transportation of dust particles is the wind, with greater emissions of dust in stronger winds, but this being countered by greater dilution. Potential impacts of dust will be respiratory tract/eye irritation, or the perception of health effects for sensitive receptors within 400m of the site. Mitigation available includes dust baffles over the ventilation fans, internal handling of manure and good practice during construction such as dampening down surfaces.

10.6.5 In conclusion, there are few receptors close enough to the site to be significantly affected by dust; course dust will tend not to travel in significant volumes further than 100m from the source due to reductions in concentration and deposition with distance. There are no residential dwellings within this distance. The greatest dust emissions are likely to arise during the construction and decommissioning phases for a short period of time, and it is considered that no significant impact in terms of dust nuisance will occur.

10.7 Conclusions

10.7.1 Given that the existing poultry units operated at Burlton Lane Farm have been running for several years and is yet to receive a complaint it is unlikely that the new development will have any impact on amenity to the surrounding area.

10.7.2 The only potentially sensitive receptors within 400m of the proposed application are the properties at numbers 1 and 2 Old Barns, Greenfields, the footpath to the east of the site and the A528. It is however considered that due to the location and nature of the proposed operations, prevailing wind direction, built in controls and mitigation measures to be put in place, the level of overall risk of nuisance is not significant.

10.7.3 There should not be a risk of fly problems from the development itself, although there could be a number of sensitive receptors close to where manure spreading is taking place. Control measures and mitigation methods will however limit the effect of flies. The greatest risk is from flies being attracted to the muck heaps.

10.7.4 Vermin are only a potential risk in close proximity to the source and it is expected that no significant vermin impacts will result from the proposed poultry development.

10.7.5 There are no receptors close enough to be significantly affected by dust as course dust will tend not to travel in significant volumes further than 100m from the

source, due to reductions in concentration and deposition with distance. The greatest dust emissions are likely to arise during the construction and decommissioning phases for a short period of time, and also from vehicle movements on dusty surfaces. It is considered that no significant impact in terms of dust nuisance will occur.

CHAPTER 11

ECOLOGY & BIODIVERSITY

11.0 ECOLOGY AND BIODIVERSITY

11.1 Introduction and Legislation

11.1.1 Schedule 4 of the Environmental Impact Assessment (EIA) Regulations states that an Environmental Statement (ES) should include a description of the aspects of the environment likely to be significantly affected by the development, including flora and fauna.

Planning Policy and Consultation

11.1.2 The NPPF sets out that the planning system should contribute to and enhance the natural and local environment and that LPAs should set criteria based policies against which proposals for any development on, or affecting, protected wildlife, geodiversity sites or landscape areas will be judged. Distinctions should be made between the hierarchies of designated sites. The NPPF goes on to state that when determining planning applications, LPAs should aim to conserve and enhance biodiversity, which includes refusing planning permission for development resulting in the loss or deterioration or irreplaceable habitats

11.1.3 The Scoping Opinion received from Shropshire Council set out that the application must be accompanied by an Ecological Assessment of the land surrounding the proposed development and a discussion of issues relating to protected species which might be present in the area. The Ecological Assessment should be carried out by a qualified and experienced ecologist with the relevant protected species licences. The assessment must include any ponds within 500m of the site to take account of Great Crested Newts.

11.1.4 Further detail in relation to relevant legislation and policy can be seen in the Ecological Appraisal at ***Appendix 8***.

11.2 Assessment Methodology

11.2.1 An assessment of the potential impacts of the proposed poultry development on ecological receptors has been carried out.

11.2.2 The starting point is to identify which ecological features or resources are of sufficient value that an impact on them could be considered significant. These features include populations, species, communities, habitats and sites selected as likely to be impacted by environmental changes caused by the proposed

development (both positive and negative). Ecological features can have two types of valuation social/community value or biodiversity value, the latter of which this Chapter is primarily concerned with. Ecological features can be identified as the following:

- Animal or plant species, subspecies or varieties that are rare or uncommon, either internationally, nationally or more locally;
- Ecosystems and their component parts, which provide the habitats required by the above species, populations and/or assemblages;
- Endemic species or locally distinct sub-populations of a species;
- Habitat diversity, connectivity and/or synergistic associations (e.g. networks of hedges and areas of species-poor pasture that might provide important feeding habitat for rare species);
- Notably large populations of animals or concentrations of animals considered uncommon or threatened in a wider context;
- Plant communities (and their associated animals) that are considered to be typical of valued natural/semi-natural vegetation types – including examples of naturally species-poor communities;
- Species on the edge of their range, particularly where their distribution is changing as a result of global trends and climate change;
- Species rich assemblages of plants or animals; and
- Typical faunal assemblages characteristic of homogeneous habitats.

11.2.3 The value of ecological features can be defined in a geographical context as International; UK; National; Regional; County; District; Local/Parish; Within Zone of Influence Only.

11.2.4 Habitats and species can already have statutory/non statutory designation and a habitat/species with no designation would need to be values using professional judgment.

Predicting and Characterising Ecological Impacts

11.2.5 Impacts are assessed in the context of the predicted baseline conditions within the zone of influence of the project during the lifetime of the development. Where possible, a level of confidence for any impact assessed should be specified, either qualitatively or quantitatively with the use of a four-point scale:

- Certain/Near Certain: probability estimated at 95% chance or higher
- Probable: probability estimated above 50% but below 95%
- Unlikely: probability estimated above 5% but less than 50%
- Extremely Unlikely: probability estimated at less than 5%

11.2.6 Where doubt as to which of the categories of probability best fits the level of professional confidence, the more conservative (higher) level is cited.

11.2.7 In order to fully characterise the likely change and impact, reference is made to the following characteristics:

- Positive or Negative;
- Magnitude;
- Extent;
- Duration;
- Reversibility; and
- Timing and Frequency.

Assessment of Ecologically Significant Effects/Impacts

11.2.8 An ecologically significant impact is defined as an impact (negative or positive) on the integrity of a defined site or ecosystem and/or conservation status of habitats or species within a given geographical area. Positive impacts are likely to be rarer, but are possible if ecological enhancements are included within a scheme's design at an early stage in the project.

11.2.9 The integrity of a site is defined as 'the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified'. A site/ecosystem that achieves this level of coherence is considered to be in 'favourable' condition. When considering if sites or ecosystems will be significantly affected or not the overall questions should be:

1) For designated sites – is the project likely to move the condition of the site towards or away from favourable condition?

2) For ecosystems – is the project likely to result in a change in ecosystem function that affect its integrity?

11.2.10 The concept of conservation status can be used to determine whether an impact on a habitat or species is likely to be ecologically significant. This may be

evaluated for any defined study area at any defined level of ecological value. The definition of conservation status for habitats and species is based on the EC Habitat Directive definition. It has been modified so that evaluation of conservation status can be applied to habitats and species within any defined geographical area. Therefore:

- For habitats, conservation status is determined by the sum of influences acting on the habitat and its typical species, that may affect long-term distribution, structure and functions, as well as the long-term survival of its typical species within a given geographical area;
- For species, conservation status is determined by the sum of influences acting on the species concerned that may affect the long-term distribution and abundance of its populations within a given geographical area.

11.2.11 The significance of the impacts of a development is a product of the characteristics of the impact (direct or indirect etc. see above) and the importance of the receptor (in terms of development control, policy guidance and legislation against the level at which it is valued). When evaluating the significance of impacts on sites and ecosystems at sub-national levels of value, the description of the ecologically important characteristics of the site or ecosystem falls to the ecologists carrying out the assessment.

11.2.12 It is also appropriate to use Biodiversity Action Plan (BAP) guidance, where available, to draw reasonable conservation objectives for those important characteristics. Results from work on levels of ecological value and impact magnitude are both used to assess the significance of ecological impact.

Level of Significance

11.2.13 A level of significance is deduced by making subjective links between receptor value and the characteristics of the impact whilst giving due consideration to relevant planning policies, conservation status, rarity and legal protection in conjunction with professional experience. The following nominal significance levels have been used in the impact assessment to describe the predicted impact upon the receptor in question, based on known ecological principles and systems:

- Very Major (significant at international level)
- Major (significant at national level)
- Moderate (significant at regional or county level)

- Minor (significant at district/local level)
- Very Minor (significant at local/site level)
- Negligible (not significant)

11.3 Limitations

11.3.1 It is necessary to carry out certain habitat and species surveys during the accepted seasons. The survey work at Burlton Lane Farm was carried out within these accepted seasons.

11.4 Baseline Ecology Conditions

11.4.1 The ecological baseline was established through a desk study and site surveys.

11.4.2 A desk study was carried out to identify protected species and habitats as well as national and local designated sites for nature within 1km to 10km of the site. Searches were conducted using the following sources:

- Shropshire Ecological Data Network
- OS maps
- Natural England SSSI citations

11.4.3 OS maps and aerial photographs were used to identify landscape features of potential ecological interest including ponds, streams and ditches, and areas of apparent (semi-) natural value.

11.4.4 A Phase 1 Habitat Survey and Protected Species Survey was carried out on 14th July 2015 by Turnstone Ecology. The habitats were assessed, and their importance/value noted based on botanic diversity and/or their potential to support uncommon or rare species of fauna. The Criteria for Assessment is set out in the Ecology Report.

11.4.5 The following habitats were identified:

- Hardstanding/hardcore track
- Improved grassland
- Buildings

11.4.6 Habitats on the whole site, including the development footprint and ranging area, were assessed for their potential to support the following species:

- Bats
- Badger
- Nesting bird species
- Great Crested Newts
- Reptiles

11.4.7 There are two designated sites which fall within the Impact Risk Zone for Designated Sites:

- Midlands Meres and Mosses Phase 1 (Ramsar) and
- Fenmere SSSI

11.4.8 Both sites are approximately 2.7km south-west of the proposed poultry extensions and provided the appropriate measures are put in place to ensure that any air pollution from the poultry units is negligible, the proposed development will have no impacts on the habitats and associated flora and fauna of either site. The Ecology Assessment has not therefore discussed this further, and air pollution is dealt with in Chapter 6 of this ES.

11.5 Ecological Evaluation

11.5.1 An ecological evaluation is undertaken using a combination of evaluation criteria for habitats and species based on the results obtained through the desk study and field survey. The general framework follows that described by the Institute of Ecology and Environmental Management and can be seen in Table 11.1 below.

Table 11.1 – Determination of Ecological Value

Ecological Value	Description and Examples
High	Habitats or features that have high importance for nature conservation, such as statutory designated nature conservation sites of international or national importance or sites maintaining viable populations of species of international or national importance
Medium	Sites designated at a county or district level, e.g. Local Wildlife Sites (LWS), ancient woodland site, ecologically 'important' hedgerows or ecological features that are notable within the context of a region, county or district (e.g. a viable area of a Priority Habitat on the county BAP or a site that supports a viable population of a county BAP species)
Low	Sites of nature conservation value within the context of a parish or neighbourhood, low-grade common habitats, such as arable fields and improved grasslands and sites supporting common, widespread species

Habitats Assessment

11.5.2 The proposed poultry extensions will be constructed entirely on an existing concrete slab at the rear of each of the existing poultry units. The egg packing unit will be constructed on an area of hardstanding between the existing poultry units. Access to the site will be along an existing hardcore farm track and turning circle area and along hardcore areas immediately adjacent to the existing sheds.

11.5.3 The site is not designated for its wildlife interest at an international, national or local level and no legally protected plant species were identified or are likely in the habitats encountered. The Shropshire BAP lists 16 Habitat Action Plans but none of these habitats will be directly affected by the proposed development.

11.5.4 Immediately adjacent to the concrete slabs and the hardcore tracks adjacent to the existing poultry units are areas of ecologically poor improved grassland. The areas of grassland are accessible to the chickens in the poultry units. Grass species noted included Perennial Rye Grass (*Lolium perenne*) and Common Couch (*Elymus repens*). Ruderal species were limited to occasional Broad leaved Dock (*Rumex obtusifolius*), Pineapple Weed (*Matricaria discoidea*) and Daisy (*Bellis perennis*) which has also encroached on to the hardcore areas adjacent to the existing poultry units.

11.5.5 The proposals are to construct extensions to two existing poultry sheds which are approximately 110m long by 15m wide. The sheds are constructed from tin sheets fixed to a metal frame. The sheds were not inspected internally during the survey however were subject to a full external walkover. A more detailed description of the sheds is provided below.

11.5.6 Evaluation Summary:

Hardstanding areas	Low ecological value
Improved Grassland	Low ecological value
Buildings	Low ecological value

Protected Species Assessment

Bats

11.5.7 The existing poultry sheds are constructed from tin sheets fixed to a metal frame. There are openings along both sides of the sheds to allow chickens to enter / exit the building and apart from these low level openings both sheds are well sealed and no features suitable for roosting bats on the outside of the buildings, including the gable ends, were noted. It is unlikely that bats would enter / exit the building via the openings for the poultry due to their size and position near the ground.

The improved grassland immediately adjacent to the poultry units and within immediate vicinity are unlikely to be of importance to bats but the wider boundary hedgerows and trees provide good foraging and/or commuting habitat, which bats that roost in the area could use on a regular basis. No trees are to be removed as part of the proposals.

Badger

11.5.8 There were no Badger setts or evidence of Badgers within or immediately adjacent to the boundaries of the proposed development site. The development site consists of two concrete slabs which are unsuitable for setts to be excavated and access to the site will be along existing hardcore tracks which are also unsuitable for setts to be located. The development area is also securely fenced to prevent chickens escaping and predators gaining access to the existing units preventing access to the development site by Badgers.

Nesting Birds

11.5.9 The concrete slab and hardcore tracks are not suitable habitat to support nesting birds and the two gable ends of each shed are in good condition, tightly sealed and offer no suitable opportunities for nesting birds.

The field boundary hedgerows and trees in the vicinity of the proposals provide good cover that is suitable for small numbers of nesting birds

Great Crested Newts

There are no historic records of Great Crested Newt within 2 km of the proposed development.

There are three ponds marked on OS mapping within the vicinity of the development site however, the one in the field to the north of the existing access track (off the A458) is no longer present, the pond along the access track (to the

west of the farm buildings) is a slurry pit and is therefore unsuitable for Great Crested Newts. The third pond, which is approximately 200m from the proposed closest extension (southern extension), is a garden pond associated with the farm house and wasn't accessed at the time of the ecological survey. Habitats between this garden pond and the proposed site consist of intensely grazed improved grassland which is sub-optimal foraging and hibernating habitat. There are no linear features of more optimal habitat connecting this garden pond to the proposed development site.

Reptiles

11.5.10 The concrete slab and hardcore access tracks are unsuitable for reptiles. In addition the improved grassland immediately adjacent to the existing poultry sheds is sub-optimal for reptiles with poor connectivity to the wider countryside.

11.6 Impact and Mitigation

The proposed development will not permanently affect any terrestrial habitat as the proposed extensions will be constructed on to existing concrete slabs, the egg packing unit will be constructed on existing hardstanding and access to the site will be along existing hard core tracks. It is possible that construction vehicles may drive on to areas of species poor improved grassland adjacent to hardcore tracks however any impact will be temporary and reversible.

The Shropshire BAP lists 16 Habitat Action Plans but none of these habitats will be significantly affected by the proposed development. The site is also not designated for its wildlife interest at an international, national or local level and no legally protected plant species were identified or are likely in the habitats encountered.

Appropriate measures will need to be put in place to ensure that there is no risk of any air pollution from the poultry units affecting surrounding habitats, including the SSSIs and Ramsar site to the south-west of the proposed development. This is covered in further detail in Chapter 6 of this report.

It is recommended that any screening bunds and/or buffers around the poultry units are seeded with an appropriate wildflower/field margin seed mix. This would increase opportunities for a range of species, including invertebrates and feeding birds.

No impacts of the proposed extensions on protected species are predicted.

There are no trees on the development site and no trees surrounding the site will be impacted by the development. No work will take place within the route protection area (RPA) of any trees, however all contractors will be made aware of the requirements of working around trees and all relevant recommendations will be adhered to.

The RPA recommendation in BS 5837 2012 (trees in relation to design, demolition and construction – Recommendations) is based on a minimum area (in m^2) calculated from the measurement of the stem diameter and a factor of the radial distance between the tree stem and the outer extent of the main lateral roots. However the significant figure is the equivalent available rooting area in m^2 rather than the circular shape. Tree roots exploit the optimum ground conditions for their physical development dependent upon soil aeration, plant-available water, mineral elements and physical barriers to growth. Providing the total minimum area in m^2 recommended in the RPA is available to the tree, the actual shape of the area is less significant, providing it can be demonstrated that the construction process will not result in significant damage to existing roots greater than 25mm in diameter.

If for any reason it is found that works do need to be carried out with any RPA, an appropriate method statement detailing how the work will be carried out in proximity to the trees, protective barrier specification, timing of work and other mitigation measures (including supervision of protection measures during construction) will be produced.

Bats

11.6.1 The proposals will result in modification to the existing poultry sheds and this work will result in the loss of an existing gable end of each of the sheds. There are no suitable roosting features at either of the gable ends, or the sheds themselves, and therefore the sheds are considered to be unsuitable for roosting bats. In addition there will be no impact on hedgerow networks within the vicinity of the extensions. It is therefore certain that the proposals will have no impact on bats.

The shed extensions will be unlit and as such the proposals will not have any indirect impact on potential bat foraging and commuting routes win the vicinity.

Badgers

11.6.2 The development proposals will result in the construction of shed extensions on to a concrete slab and egg packing unit on to hardstanding. There will therefore be no loss of terrestrial habitat. Badgers cannot access the site due to predator proof fencing around the existing sheds and there will therefore be no impact on this species during construction.

Nesting Birds

11.6.3 In order to enhance the site for breeding birds House Martin (*Delichon urbicum*) nesting cups can be installed on the gable end of each of the extensions. The extension would need a small overhang created at each of the gable ends in order to provide a suitable nesting place for this species.

Great Crested Newts and Reptiles

11.6.4 The proposals will not impact on Great Crested Newts and no mitigation is necessary.

11.6.5 Reptiles are unlikely to occur within the development site and the proposals will only have limited impacts on the habitat within the wider area where no reptiles are considered likely give the sub-optimal habitat and presence of chickens. Therefore no impacts on reptiles are anticipated.

11.7 Conclusions

11.7.1 Due to the limited habitats on the site, and the proposed mitigation it is considered that there will be no impacts of major or intermediate significance on habitats or protected species. There will be no significant loss of habitat as a result of the development during the construction, operational or decommissioning phase, although the areas of arable and rough grassland may see some minor impact; the surrounding habitats are likely to remain unaffected.

11.7.2 Any potential negative impacts can be minimised through the proposed mitigation measures. Any landscaping proposal carried out will include native planting and will enhance the ecological value of the site. Overall ecological impact is minor.

CHAPTER 12

NOISE AND VIBRATION

12.0 NOISE AND VIBRATION

12.1 Introduction and Policy

12.1.1 The National Planning Policy Framework states that the planning system should contribute to and enhance the natural and local environment; it offers a number of ways in which this can be achieved, one of which is by minimising pollution, including noise from new developments. In addition to this the document goes on to say that noise from new developments should not give rise to significant adverse impacts on health and quality of life.

12.1.2 This chapter looks at the potential noise created by the proposed development, and the possible impacts of this on the site's surrounding receptors, such as residential properties and amenity users of the local area. It also details the measures to be put in place to mitigate against these impacts.

12.1.3 A Noise Assessment in accordance with all relevant guidance has been carried out by Matrix Acoustics Design Consultants and submitted at ***Appendix 9*** of this ES. The results of the Noise Assessment have been considered in this chapter.

12.2 Methodology and Guidance

12.2.1 In assessing the potential noise impact of the proposed development the baseline noise environment has been considered with regard to potential noise sensitive receptors. The nearest noise-sensitive receptors to the proposed poultry development have been used as the determining locations for acceptable noise levels.

12.2.2 BS4142 describes a method by which noise from fixed industrial plant, processes or premises should be assessed to indicate the likelihood of complaint by nearby residential receivers. This standard compares the measured and analysed noise levels of the industrial or fixed plant noise with the existing typical background noise level. Noise impact is assessed in terms of the likelihood of complaints being received. The method of establishing whether the noise is likely to give rise to complaints is not applicable for assessing the noise measured inside residential buildings or when the background and rating noise levels are both very low.

12.2.3 The procedure contained in BS4142 for assessing the likelihood of complaint, is to compare measured or predicted noise levels from the source in question

immediately outside the dwelling, the 'specific noise level', with the background noise level.

12.2.4 The standard is not suitable for the assessment of complaint when the background and rating noise levels are both very low; very low background noise levels are defined as those below 30dB L_{A90}, very low rating noise levels are defined as those below 35dB $L_{Ar,T}$. The specific noise level is measured in terms of a $L_{Aeq,T}$ value and the background noise level is measured in terms of an L_{A90} value.

12.2.5 Where the specific noise contains a 'distinguishable discrete continuous note (whine, hiss, screech, hum etc.) or if there are distinct impulses in the noise (bangs, clicks, clatters or thumps), or if the noise is irregular enough to attract attention' then a correction of +5dB is added to the specific noise level to obtain the 'rating level', or $L_{Ar,T}$.

12.2.6 The likelihood of noise provoking complaints is assessed by subtracting the background noise level from the rating noise level. BS4142 states:

12.2.7 "A difference of around 10dB or higher indicates that complaints are likely. A difference of around 5dB is of marginal significance. A difference of -10dB is a positive indication that complaints are unlikely."

12.2.8 BS8233:1999 'Sound insulation and noise reduction for buildings-Code of practice' provides advice on the control of noise in and around buildings and suggests suitable criteria and limits. The guidance also states that 'For a reasonable standard in bedrooms at night, individual noise events (measured with F time-weighting) should not normally exceed 45dB LAmax. The research underpinning this limit stated that '…for a good sleep, it is believed that indoor sound pressure levels should not exceed approximately 45dB LAmax more than 10-15 times per night'.

12.2.9 The following guidance is also relevant:

British Standard 5228-1:2009 – Haul Route Calculation

12.2.10 BS5228-1:2009 sets out a methodology for predicting noise levels for plant using a regular well-defined haul route as outlined below.

12.2.11 The prediction of L_{Aeq} from mobile plant using a regular route can be used when items of mobile plant pass at a known rate of vehicles per hour. For mobile items of plant that pass at intervals (such as vehicles on an access road), it is possible to predict an equivalent continuous sound level using the following method.

12.2.12 The general expression for predicting the L_{Aeq} alongside a haul road used by single engine items of plant is:

LAeq = LWA – 33 + 10log10 Q – 10log10 V - 10log10 d

Where;

- LWA is the sound power level of the plant in decibels (dB);
- Q is the number of vehicles per hour;
- V is the average vehicle speed in kilometres per hour (km/h); and
- d is the distance of receiving position from the centre of the haul road in metres (m).

12.2.13 Estimates of the LAeq from a haul road used by other types of mobile plant with twin engines can be made by adding a further 3dB(A) to the calculated LAeq.

Draft Guidelines for Noise Impact Assessment

12.2.14 The draft Guidelines for Noise Impact Assessment produced by the Institute of Acoustics and Institute of Environmental Management and Assessment Working Party may be referenced in relation to the potential impact of changes in the ambient noise levels as a result of development related noise sources.

12.2.15 The draft guidelines state that for any assessment, the noise level threshold and significance should be determined by the assessor, based upon the specific evidence and likely subjective response to noise.

12.2.16 The draft Guidelines for Noise Impact Assessment impact scale adopted is shown in Table 12.1 below.

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Noise Level Change dB(A)	Subjective Response	Magnitude
0	No change	Negligible
0.1 – 2.9	Barely perceptible	Minor
3.0 – 4.9	Noticeable	Moderate
5.0 – 9.9	Up to a doubling or halving of loudness	Substantial
10.0 or more	More than a doubling or halving of loudness	Major

12.1 – Noise Impact Scale

12.2.17 The criteria above reflect the key benchmarks that relate to human perception of sound. A change of 3dB(A) is generally considered to be the smallest change in environmental noise that is perceptible to the human ear. A 10dB(A) change in noise represents a doubling or halving of the noise level. The difference between the minimum perceptible change and the doubling or halving of the noise level is split to provide greater precision to the assessment of changes in noise level.

12.3 Baseline Noise Position and Potential Receptors

12.3.1 An environmental noise survey was undertaken by Matrix on the 7th and 8th of September 2015.

12.3.2 During the survey period the weather conditions were acceptable for noise monitoring, being dry with wind speeds of less than 5ms-1. The noise monitoring equipment used during the assessment is detailed in the Noise Assessment at ***Appendix 9***.

12.3.3 At the two receptor locations assessed, noise levels were monitored during the proposed operational hours in order to establish the prevailing noise level in the absence of the proposed unit. Full results can be seen in the noise assessment at ***Appendix 9*** and in summary the noise sources affecting the nearest dwelling was; road traffic on the A528, agricultural related activities (e.g. tractor and HGV delivery movements) and cattle, both within fields and Burlton Lane Farm open sided barns. Although the road noise was dominant at position 1 at Burlton Lane Farm, the background noise levels particularly at night were generally higher at position 2 close to the farmhouse. This is likely to be the result of a constant noise source for example constantly running plant possibly located in the existing agricultural buildings.

From the measurement data the typical measured day, evening and night background noise levels have been established as:

Position 1:
Day (07:00 – 20:00hrs): LA90 36dB
Evening (20:00 – 23:00hrs): LA90 30dB
Night (23:00 – 07:00hrs): LA90 18dB

Position 2:
Day (07:00 – 20:00hrs): LA90 25dB
Evening (20:00 – 23:00hrs): LA90 23dB
Night (23:00 – 07:00hrs): LA90 21dB

12.4 Noise Generation from the Proposed Development

Construction Phase

12.4.1 There will be noise generated as a result of the construction phase, however this will be for a short time period only (construction is expected to last up to 3 months) and will not have any significant medium or long term impacts. The noise created will be similar to that generated by any other construction process and will be predominantly confined to normal working hours, leading to minimal disruption for both residents and amenity users.

Operation

12.4.2 In general, the main possible sources of significant noise generation, caused by the proposed development during its operation, as identified from similar developments have been listed below:

- Ventilation Fans
- Feed Deliveries
- Egg Collections
- Feeding Systems
- Fuel Deliveries
- Alarm Systems
- Bird Catching
- Clean Out Operations
- Maintenance and Repairs
- Set Up and Placement
- Standby Generator Testing

12.4.3 The most significant sources of noise from the above list will be from the ventilation system and from traffic moving to and from the site particularly during the collection of birds from the site, the removal of the manure and the restocking phase of the cycle.

12.4.4 The ventilation fans are used to control the internal environment of the poultry units. The systems are automatically controlled and the number of fans that are operational will depend on the age of the birds and the ambient temperature. Maximum fan operation is only likely to occur during summer daytime. In all likelihood these fans will only be running at a low level at night time if they are running at all.

12.4.5 Noise resulting from feed deliveries and other goods does have the potential to affect sensitive receptors along the delivery route. The disturbance from noise generated by the day to day traffic movements however will be minimal due to the fact that this will in all likelihood take place during normal working hours. The noise impact from deliveries will not be significant. Road noise is already a feature in the area.

12.4.6 During the manure removal stages the main source of noise will be from tractor and trailer movements to and from the sites. This is a common agricultural practice, will be carried out during normal working hours, and noise impact will not be significant.

12.4.7 The Noise Assessment at ***Appendix 9*** sets out noise predictions for the operation of the poultry units. The calculations are based on a worst case scenario of all extract fans (roof and gable) operating between 07:00 – 20:00hrs, and 50% of the roof fans operating at any one time between 20:00 – 07:00hrs.

12.4.8 Noise data has been provided by Big Dutchman and the noise report has applied specific corrections to the manufacturers data to take account of site specifics. These corrections are fully set out in the noise report at ***Appendix 9***. The resultant extract fan Assessment Level at the nearest dwellings not in ownership of the applicant (the barn conversions) are set out in full in the noise report and summarised below:

12.4.9 The highest calculated Assessment Levels at any of the nearest dwellings during the day, evening and night are 0dB, -15dB and -4dB respectively. Where the Rating Level is at parity with the background BS4142 states that the Specific Level will have a low impact. On this basis the noise assessment concludes that the noise impact of the extract fans externally will be between low to negligible.

12.4.10 During the night it is reasonable to assume that the occupiers of the nearest dwellings will be within their houses. A room with an open window will provide 10

– 15dB sound reduction. Using the lower 10dB sound reduction the resultant plant noise ingress at highest would be 4dB (in a room with open windows facing the development of the nearest dwelling); this would be inaudible.

Transport Noise Assessment

12.4.11 Transport activities (e.g. HGVs movements and loading/unloading) already occur at Burtlon Lane Farm as part of the existing operations of the free-range poultry units. With the proposed extension/upgrade there will be a 100% increase in the capacity of the units, which will lead to an increase in the frequency of transport movements. However, due to improved efficiency (currently many HGVs are not used at full capacity) the increase in transport movements is expected to be small.

12.4.12 All transport activities, as with the current units, will be during working day hours only.

12.4.13 Given that the same access route, loading/unloading areas will be used and there is no variation in the type of activities no change in the noise impact is expected as a result of the proposed extension/upgrade.

Internal Noise

12.4.14 Example noise producing activities within the sheds are:

• Conveyor belts used for manure removal and egg packing; 69dB at 1m from the conveyor belt motor measured at Burlton Lane Farm, Myddle

• Bird stocking/destocking: the birds are stocked/destocked manually, with the doors of the shed closed. Noise levels not expected to be greater than 70dB

• Livestock: Noise generated by the birds themselves, which is not expected to be greater than LAeq 70dB

12.4.15 Eight roof mounted fresh air inlets on each shed are proposed, which will create a new path for noise egress from sheds. The resultant noise emissions via the air inlets and consequent Rating Levels have been calculated at Dwelling A and B using the following:

- **Assumed internal noise:** Lp 70dB
- **Sound power at each air inlet:** Lp + 10 x log(n), where n = diameter of duct
- **Directivity correction:** correction applied to account for a 90° lateral angle of axis

- **Reflections of roof:** 3dB
- **Distance correction:** 20 x Log (d) + 11, where d = distance between air inlet duct termination and receptor
- **Shielding correction:** The ridge of the sheds will provided full acoustic shielding to 50% of the duct terminations; in these cases a 10dB correction has been applied
- **Ground absorption:** ISO 9613-2, Formula 10
- **Atmospheric attenuation:** ISO 9613-2, Formula 8
- **BS441 character correction:** 4dB to account for potential tonality of noise source

12.4.16 The highest calculated Assessment Levels at any of the nearest dwellings during the working day is -57dB; these will result in a negligible noise impact.

12.4.17 The egg packing conveyor belts are to be relocated from their current location in the free-range units to a new building between the two sheds. The new building will be constructed of steel profile cladding, which is expected to achieve a sound reduction of no less than Rw 40dB.

12.4.18 Using an assumed 70dB internal noise level Table B3 provides the calculation of the noise break-out from the building to the Dwellings A and B using the following corrections:

- **Façade sound reduction:** Rw 40dB
- **Area of shed façade correction:** 10 x Log (area)
- **Shielding correction:** 10dB; the line of view of the egg packing building will fully blocked by other buildings for both Dwellings A and B
- **Distance correction:** 10 x Log (2 x π x d^2), where d = distance between façade and receptor
- **Atmospheric attenuation:** ISO 9613-2, Formula 8
- **BS441 character correction:** 4dB to account for potential tonality of noise source

12.4.19 The highest calculated Assessment Levels at any of the nearest dwellings during the working day is -57dB which will be a negligible noise impact.

12.4.20 With all calculations there is a level of uncertainty, which in this case is not expected to be greater than +/-3dB. This small level of uncertainty is not considered to have any significance to the outcome of the assessment.

12.5 Conclusion from NIA

12.5.1 A noise survey has been conducted to determine the typical background noise levels at the nearest dwellings to the proposed extended/upgraded free-range poultry units.

12.5.2 The extract fan and internal activities including livestock as a result of the proposed free-range egg poultry units extension/upgrade have been assessed in accordance with BS4142:2014.

12.5.3 Via calculations set out in the noise report it has been demonstrated that at Dwellings A and B the highest aggregate:

• **Extract fans:** Rating Level is equal and 15dB below the typical background during the day and evening respectively

• **Internal activities and livestock:** Rating Level will be substantially below the typical background day and night

12.5.4 BS4142:2014 states that the Specific Level will have a low impact when the Rating Level is at parity to the typical background. On this basis it is concluded that the noise impact during the day will be:

• Extract fans: very low to negligible

• Internal noise breakout: negligible

12.5.5 During the night the noise ingress in the nearest dwellings for all the poultry units noise sources will be significantly below both BS8233s and WHOs environmental noise ingress limits.

12.5.6 With the proposed scheme there will be no change in the noise impact of transport activities.

12.5.7 The NIA concludes that the plant, transport and noise breakout as a result of the proposed scheme will not result in an adverse noise impact at the nearest dwellings.

CHAPTER 13

ODOUR

13.0 ODOUR

13.1 Introduction

13.1.1 A full Odour Impact Assessment (OIA) has been carried out for the proposed development by AS Modelling & Data Ltd and can be seen at ***Appendix 10***. This included a detailed dispersion modelling exercise to predict the odour impact of the proposed facility. The scope of the OIA is limited to the prediction, through atmospheric modelling of impacts on local sensitive receptors based on design information and desktop emission rates. Other issues in relation to air quality, health and climate, amenity and noise are dealt with in other chapters.

13.2 Regulatory Standards and Guidelines

General Guidance

13.2.1 In the UK there remain no *statutory* numerical standards for assessing the acceptability of predicted odour impacts from quantitative odour impact assessments. On this basis, odour impact criteria are typically based upon guidance documents and research.

13.2.2 UK guidance identifies a range of odour impact criteria depending primarily on the nature of odour (i.e. its pleasantness/unpleasantness) and the likelihood of causing unacceptable impacts. Odour assessments are undertaken using the concept of the European Odour Unit (OU_E), as defined in BS EN 13725[2]. This approach allows impact assessment of any odorous gas as it is independent of chemical constituents and centres instead on multiples of the detection threshold (i.e. the physiological response of a human) of the gas in question.

13.2.3 As the odour unit is a Standard Unit in the same way as gram or milligram, the notation used in odour assessment follows the conventions of any mass emission unit as follows:

- Concentration: ou_E/m^3;
- Emission: ou_E/s; and
- Specific emission (emission per unit area): $ou_E/m^2/s$

13.2.4 Like air quality standards for individual pollutants, exposure to odour is given in terms of a percentile of averages over the course of a year. This prevents results

being skewed by infrequent meteorological conditions. The exposure criteria most accepted in the United Kingdom (UK) at present is given in terms (concentration) European Odour Units as a 98th percentile (C_{98}) of hourly averages. This allows 2% of the year when the impact may be above the limit criterion (175 hours). The notation for impact is therefore: C_{98}, 1 hour *X* ou_E/m^3.

13.2.5 As the impact criterion is based on the 98th percentile of predicted of hourly average concentrations over a year, such a criteria apply only to locations where an individual's exposure is likely to occur for prolonged periods of time i.e. residential properties. Where exposure is more transient i.e. roads, footpaths etc. the direct application of such criteria should be treated with caution and further consideration should be given to how the duration and frequency of exposure of the individual will influence the acceptability of the predicted impact.

Environment Agency H4 Guidance

13.2.6 The H4 guidance proposed the use of installation-specific exposure criteria (benchmarks) on the basis that not all odours are equally offensive, and not all receptors are equally sensitive. The conditions of a Permit will balance these installation-specific odour exposure criteria against what is realistically achievable in accordance with the concept of Best Available Techniques (BAT).

13.2.7 The guidance states:

'..benchmarks are based on the 98th percentile of hourly average concentrations of odour modelled over a year at the site/installation boundary. The benchmarks are:

- *1.5 odour units for most offensive odours;*
- *3 odour units for moderately offensive odours;*
- *6 odour units for less offensive odours.'*

13.2.8 Intensive livestock is classified as being moderately offensive. However, these benchmark limits may be relaxed in cases where the source is familiar to the location. This is particularly the case in relation to intensive agriculture in a rural setting.

Odour Management at Intensive Livestock Installations (IPPC SRG 6.02)

13.2.9 This guidance is specifically targeted at the pig and poultry sector, and includes many of the principles applied to all sectors regulated under IPPC referred to in the draft H4 Horizontal Guidance for odour.

13.2.10 In relation to general principles of 'acceptability', this guidance describes that:

'In the case of odour, pollution is considered in terms of causing offence to the sense of smell, i.e. causing annoyance to people who live in the area or are there for some other reason, through exposure to odour. The point at which 'pollution' in the form of offence to the sense of smell is occurring, is taken to be the point at which there is 'reasonable cause for annoyance'.

'The aim of the legislation is to achieve 'no reasonable cause for annoyance' by persons beyond the boundary of the installation, i.e. sensitive receptors, as far as is possible using Best Available Techniques.'

'The amount of annoyance should not be assessed only by means of the number of complaints. You should still use best practice to keep odour levels as low as reasonably possible where people live close by, even if complaints are rarely received.'

13.2.11 In relation the requirements for mitigation, the guidance states that:

'The legislation requires that the amount that you spend on taking measures to reduce odour should be in proportion to the annoyance caused or potential to cause annoyance. Good practice should be adhered to at all times by all installation, but if a large number of complaints are received, or the installation is close to a built up area then you may have to expend more effort to reduce odour. BAT covers management techniques (i.e. Best Practice), as well as hardware, to control odour.'

'New installations will have to use BAT from the outset. Indicative sector BAT may help operators understand the requirements. As part of the planning process it is likely that an applicant will be required to undertake an odour impact assessment (section 4) to predict the odour emission.'

13.2.12 The odour impact criterion provided is consistent with that given in the H4 draft:

'The indicative exposure level criterion which equates to 'no pollution', i.e. no reasonable cause for annoyance is: 3 ou_E/m^3 as a 98^{th} percentile of hourly means

at sensitive receptors, with such an adjustment as is appropriate to take account of local circumstances. This is the point at which the smell is recognisable e.g.as pig odour.'

13.2.13 Further details of relevant guidance can be seen in the OIA at ***Appendix 10***.

13.3 Methodology

Identification of Odour Sources

13.3.1 Potential source of odorous emissions from the facility have been identified on the basis of a review of the proposed development design. Potential sources of odour and potential releases to atmosphere have been identified.

13.3.2 Given the belt system for manure handling into covered trailers it is considered that, with the procedure undertaken in accordance with the manure management plan, the main potential odour sources are point sources from the laying shed ventilations. There are also fugitive emissions from inlet vents and pop holes, and as the birds have access to ranging areas some odour can arise from the manure deposited in ranging areas.

13.3.3 A new ventilation system will be installed as part of the shed extension and re-fitting and works.

13.3.4 Control of fugitive/intermittent releases of odour will be addressed by a site Odour Management Plan as part of the permitting process.

Derivation of Emissions

13.3.5 The odour emissions for the proposal have been estimated using values given in published literature in the UK and Europe for similar facilities. Ventilation flows are based on standard best practice design for UK egg laying houses.

Quantification of Odour Impact

13.3.6 Data was input to an Atmospheric Dispersion Modelling System (ADMS). For this assessment the ADMS 5 was used which is a new generation Gaussian plume air dispersion model which is considered a suitable model for this assessment.

13.3.7 The results of the dispersion modelling have been presented in the form of illustrations of the odour footprint as isopleths (contours of concentration) for the criteria selected enabling determination of impact at any locations within the study

area; and tabulated odour concentrations ($C_{98,\ 1\text{-hour}}$ X ou_E/m^3) at discrete receptor locations to facilitate the discussion of results.

13.3.8 Full details of the methodology and modelling systems can be seen in the Odour Report at ***Appendix 10***.

13.4 Receptors, Ventilation Flows and Emissions

Receptors

13.4.1 To enable the predicted odour impacts to be assessed, discrete receptor locations were selected for comparative purposes. These represent the closest residential property locations in each direction. There were 9 locations identified and these can be seen in the OIA at ***Appendix 10***.

Ventilation Flows

13.4.2 Design ventilation flows have been calculated by the designers of the facility.

13.4.3 Each conversion will comprise 6 CL920 air exhaust chimneys (3 per side) and 8 EM50 belt drive fans (4 per side).

13.4.4 For day to day ventilation the air exhaust chimneys will suffice and the EM50 fans will be installed only as contingency in very hot conditions (they do not usually operate until outside temperatures reach 30ºC).

Emission Rates

13.4.5 Odour emission rates have been calculated in the OIA. Published research gives the mean odour emission rate from a laying farm as between 0.164 and 0.178 ouE/s/hen.

13.4.6 Unlike a broiler facility, there is little of the variability associated with the cropping cycle as:

- The grown birds are not replaced so frequently
- The use of manure belts results in the regular (twice weekly) removal of waste products from the sheds.

13.4.7 Research shows clear benefits of the belt system. In that the NH3 emission factor reduction of the ventilated belt manure management system (compared to the

deep-pit technique) was 61%. Similarly, the seasonal variability was greatly reduced as a result of the regular waste removal.

13.4.8 Full detail can be found in the OIA at ***Appendix 10***.

13.5 Odour Impact Assessment

Modelling

13.5.1 As the proposed development involves the extension and re-fitting of existing poultry houses, both the existing situation and the proposed situation has been considered. Full details of the data used to build the odour models can be found in the OIA at ***Appendix 10***.

13.5.2 The OIA sets out the modelled emission rates as follows:

Table 13.1 – Summary of emission rates from existing poultry houses

Emission rate (ou_E/s per bird as stocked during crop)				
Season	Average	Night-time Average	Day-time Average	Maximum
Winter	0.417	0.417	0.418	0.871
Spring	0.491	0.421	0.561	2.785
Summer	0.690	0.421	0.852	3.125
Autumn	0.429	0.417	0.441	2.772

Table 13.2 – Summery of emission rates from proposed poultry houses

Emission rate (ou_E/s per bird as stocked during crop)				
Season	Average	Night-time Average	Day-time Average	Maximum
Winter	0.209	0.208	0.209	0.436
Spring	0.245	0.210	0.281	1.392
Summer	0.345	0.211	0.426	1.562
Autumn	0.215	0.208	0.221	1.386

13.5.3 For this study ADMS was run with the terrain module of ADMS (FLOWSTAR) and with the calms module of ADMS. ADMS was effectively run twelve times, once for each year of the four year meteorological record. Statistics for the annual 98th percentile hourly mean odour concentration at each receptor were compiled for each of the twelve runs for both the existing and the proposed scenarios.

13.5.4 A summary of the results of these twelve runs at the discrete receptors is provided below where the maximum annual 98th percentile hourly mean odour concentration for each scenario is shown.

13.5.5 In Table 13.2 below, predicted odour exposures in excess of the Environment Agency's benchmark of 3.0 ou_E/m^3 as an annual 98th percentile hourly mean are coloured blue; those in the range that UKWIR research suggests gives rise to a significant proportion of complaints, 5.0 ou_E/m^3 to 10.0 ou_E/m^3 as an annual 98th percentile hourly mean, are coloured orange and predicted exposures likely to cause annoyance and complaint are coloured red.

Table 13.2 – Summary of emission rates from proposed poultry houses

Receptor number	X(m)	Y(m)	Maximum annual 98th percentile hourly mean odour concentration (ou_E/m^3)	
			Existing Scenario	Proposed Scenario
1	346522	324969	5.45	0.84
2	346167	325330	1.36	0.53
3	345968	325631	0.37	0.19
4	346911	324182	0.76	0.23
5	345880	324137	0.27	0.12
6	344988	325013	0.17	0.10
7	345854	325896	0.21	0.13
8	347071	325843	0.34	0.17
9	346754	323950	0.35	0.17

Results: Predicted Odour Impact

13.5.6 Results must be compared against the impact criterion of 3 ou_E/m^3 as a 98th percentile of hourly means appropriate for a 'moderately offensive' odour.

13.5.7 The results of the odour modelling and contour plots of the maximum annual 98th percentile hourly mean odour concentration can be seen below:

Figure 13.5.1 Predicted maximum annual 98th percentile hourly mean odour concentration – existing scenario

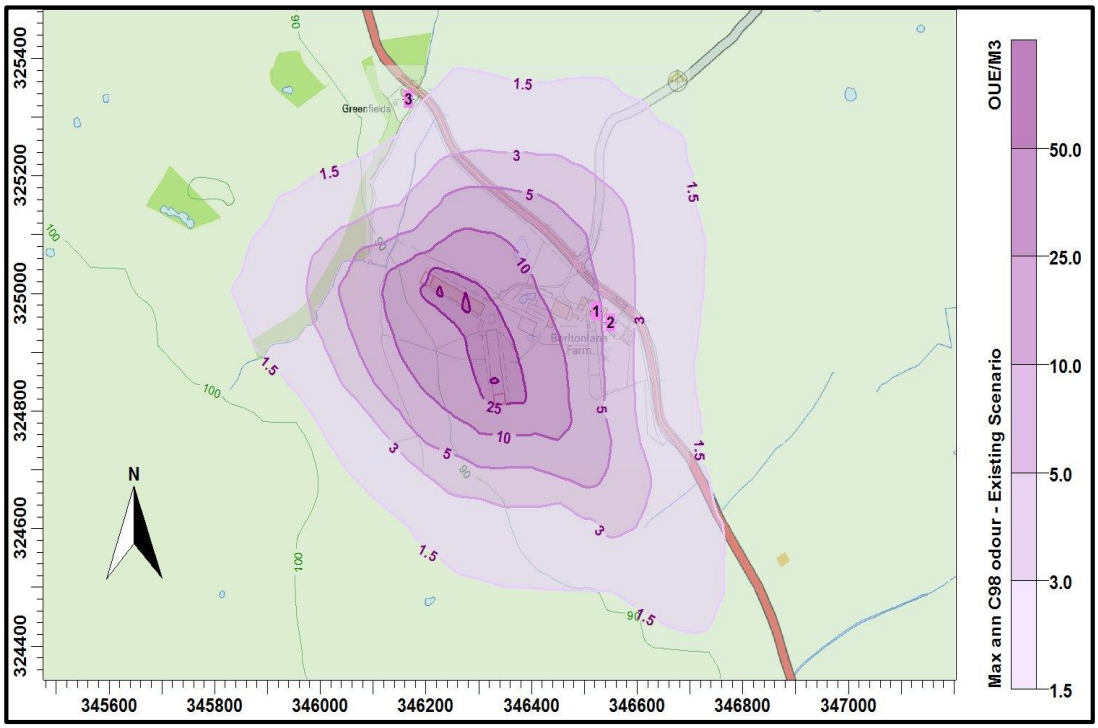

Figure 13.5.2 Predicted maximum annual 98th percentile hourly mean odour concentration – proposed scenario.

13.5.8 The results of the assessment indicate that the impact from the proposed facility is less than the $C_{98,\ 1\text{-hour}}$ 3 ou_E/m^3 limit at all modelled receptor locations in the proposed scenario. These impacts are regarded as acceptable given the impact criteria applied.

13.5.9 The results indicate that due to the sheds being fitted with a new ventilation system, there will actually be an improvement from the current situation.

13.5.10 Additional measures will not be required to further mitigate odour releases. Standard operational measures (i.e. *control of processes or emissions*) are matters for the environmental permitting process and are regulated through the Environmental Permit.

13.6 Conclusions from the OIA

13.6.1 A detailed Odour Impact Assessment has been undertaken to identify the potential odour sources, primary control techniques, residual odour emissions and predicted impacts associated with operation of a new poultry laying facility. The main odour sources at the proposed facility will be the vent fans on the laying sheds.

13.6.2 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 house. 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.

13.6.3 The modelling predicts that should the redevelopment of the free range egg laying chicken unit at Burlton Lane Farm proceed, at all of the residential receptors considered, the odour exposures would be below the Environment Agency's benchmark for moderately offensive odours, a 98th percentile hourly mean of 3.0 ou_E/m^3 over a one year period.

13.6.4 Furthermore, due to the improvement in initial dispersion characteristics offered by the use of uncapped high speed ridge mounted fans and chimneys and the likely reduction in odour production due to the new manure management system, odour exposures would be reduced from current levels and, in most cases, the predicted levels indicate that odours from the unit would rarely be detectable.

13.6.5 Odour impacts will therefore remain below the Environment Agency limit for intensive agricultural operations with the new development in place. Impact from odour will therefore be insignificant.

CHAPTER 14

WATER RESOURCES AND MANURE MANAGEMENT

14.0 WATER RESOURCES AND FLOOD RISK

14.1 Introduction and Legislation

14.1.1 The impact of the proposed poultry development on water resources has been assessed in this Chapter of the ES. This includes drainage implications, flood risk assessment, assessment of impacts on surface and groundwater - dirty water, and manure management/spreading implications.

14.1.2 A Drainage and Water Resources Report has been prepared by Woodsyde Developments Ltd and the results set out in this Chapter. The full report can be seen at ***Appendix 11***.

14.1.3 Guidance provided from the UK Technical Advisory Group (UKTAG) provides an overview of the environmental standards for water quality and hydromorphology arising from requirements set by the European Water Framework Directive (WFD). The Nitrate Pollution Prevention Regulations 2008 regulate the use of organic and inorganic fertilisers within Nitrate Vulnerable Zones.

14.1.4 The leaching of Nitrogen from farms can have a significantly detrimental effect on the landscape. The European Commission has consequently provided a legislative framework to govern areas of land which could be susceptible to pollution this is the Nitrates Directive and is currently enforced within each member state. This has manifested itself within the UK as the Nitrate Pollution Regulation 2008; the land areas which are within this regulation are known as NVZs.

14.1.5 This framework applies restriction on the storage and application of Nitrogen based fertilisers, both organic and inorganic within these NVZs.

14.2 Methodology

14.2.1 The assessment has predominantly involved desk based study involving the collation and assessment of relevant information. Sources of information have been identified in the Drainage and Water Resources Report at ***Appendix 11***.

14.2.2 The Drainage and Water Resources Report also assesses the risks associated with the application of manure to agricultural land and includes a risk assessment and a calculation of the land needed and what is available for spreading.

14.2.3 Assessment Criteria:

The significance of any impacts of the proposed free range poultry development on baseline conditions is assessed as part of the impact assessment. The sensitivity of the receptor and the magnitude of potential impact combine to determine the significance of that impact. Magnitude, sensitivity and significance criteria were developed for the conditions and environments prevailing at the site.

14.3 Assessment Criteria

14.3.1 The criteria used for assessing the magnitude of a potential impact of contamination and general risk is set out below.

General Risk and Contamination

Table 14.1 – Impact Magnitude Criteria

Level of Magnitude	**Definition of Magnitude**
Negligible	Unquantifiable or unqualifiable change in hydrological/hydrogeological conditions (including water quality).
Minor	Detectable but minor change to hydrological/hydrogeological conditions. Water quality/quantity standards less than threshold and unlikely to affect most sensitive receptors.
Moderate	Detectable change to hydrological/hydrogeological conditions resulting in non-fundamental temporary or permanent consequential changes. Some deterioration in water quality/quantity likely to temporarily affect most sensitive receptors.
High	Fundamental change to hydrological/hydrogeological conditions (including deterioration in water quality/quantity) resulting in temporary or permanent consequential changes.

14.3.2 Sensitivity of the environment can be based both on the degree of environmental response to a particular impact and the value of the receptor. The table below sets out the criteria used in this assessment:

Table 14.2 – Sensitivity Criteria

Sensitivity	Definition
Negligible	Environment is insensitive to impact, no discernible changes (such as non-aquifer where little or no effect on groundwater could occur)
Minor	Environment responds in minimal way with only minor changes are detectable (such as surface water features present at some distance or groundwater resource with minimal sensitivity e.g. Minor Aquifer)
Moderate	Environment clearly responds to effects in quantifiable and/or qualifiable manner (such as reasonable proximity to a surface water course abstraction point, or Major Aquifer or sited on a Minor Aquifer)
High	Environment is subject to major change (such as adjacent to or within 100m of a sensitive watercourse or sited directly upon a Major Aquifer/Source Protection Zone)

14.3.3 The significance is then assessed using a combination of magnitude and sensitivity set out below:

Table 14.3 – Significance Matrix

Magnitude	Sensitivity			
	Negligible	Low	Medium	High
Negligible	Insignificant	Insignificant	Insignificant	Insignificant
Low	Insignificant	Minor	Minor	Moderate
Moderate	Insignificant	Minor	Moderate	High
High	Insignificant	Moderate	High	Very High

14.3.4 Risks are assessed by using information of a hazard and estimating the actual or potential risks to receptors.

14.3.5 Risks will be connected to the hazard by an exposure pathway. There are three essential components to risk – source, pathway, and receptor which without there is no risk. The presence of a hazard does not therefore automatically mean there is a risk. Receptors include any people, animal or plant populations, or natural or economic resources that are within the range of the potential spread of the source, and which are connected to the source by a transport pathway. This assessment is principally concerned with surface water and groundwater receptors. The sources for the site at Burlton Lane Farm have been identified in this report and the Flood Risk and Drainage Assessment. The pathways have also been identified and can include conveyance via soil, water or air (or in some cases direct contact).

14.3.6 Once the source, pathway and receptor have been identified, an exposure assessment based on whether the source can reach a receptor and whether it is major or minor significance is made.

14.3.7 The Department for the Environment Transport and the Regions' (DETR) Circular 02/2000 sets out procedure for risk assessment. The DETR (now Defra), with the EA and the Institute of Environment and Health, has published guidance on risk assessment (Guidelines for Environmental Risk Assessment and Management). This guidance states that the designation of risk is based upon a consideration of both:

- The likelihood of an event; (takes into account both the presence of the hazard and the receptor and the integrity of the pathway); and,
- The severity of the potential significance (takes into account both the potential severity of the hazard and the sensitivity of the receptor).

Table 14.4 – Risk Assessment Matrix

		Significance			
		Insignificant	**Minor**	**Moderate**	**High**
Likelihood	Unlikely	Very Low Risk	Very Low Risk	Low Risk	Moderate/ Low Risk
	Low Likelihood	Very Low Risk	Low Risk	Moderate/ Low Risk	Moderate Risk
	Likely	Low Risk	Moderate/ Low Risk	Moderate Risk	High Risk
	High Likelihood	Low Risk	Moderate Risk	High Risk	Very High Risk

14.3.8 Risk criteria has been defined as follows:

- Very low risk – the presence of the hazard does not give potential to cause significant harm to the identified receptor
- Low risk – there is the possibility that harm could arise from the hazard to the identified receptor but at worst it is likely that the harm will be minor
- Moderate risk – it is possible that without remedial action, harm could arise to the receptor but unlikely that the harm will be high and likely to be relatively minor
- High risk – harm is likely to arise from the presence of a hazard to the receptor without remedial action

- Very high risk – there high likelihood that severe harm could arise from the presence of a hazard without remedial action

14.3.9 The assessment of significant impacts is based on the potential impact before any proposed mitigation measures.

Flood Risk and Drainage

14.3.10 The Drainage and Water Resource report is prepared in accordance with the requirements of the Environment Agency and NPPF (previously PPS25), the guidelines indicating the necessity to produce such an assessment in areas which are in part or in whole potentially liable to the effects of a 1% (1 in 100 year) flood event.

14.3.11 The Flood Risk Assessment is carried out in line with the NPPF for the proposed site as it exceeds 1ha. For any site larger than one hectare the EA's standing policy, in accordance with NPPF, states that an assessment must be undertaken. In addition to assessing external risk of flooding to the site, an assessment must demonstrate that the proposed development would not exacerbate flooding elsewhere. On Brownfield sites it is also necessary to demonstrate that peak rates of flow would be reduced back towards the levels that would be expected from a Greenfield site.

14.3.12 In line with PPS25 the designation of significance (risk) of flood risk is based upon consideration of:

- The sensitivity of the receptor – takes into account the nature of the development or receptor and its likely response to increased risk.
- The magnitude of the potential hazard (i.e. severity) – takes into account the potential severity and nature of the flooding.
- The probability of occurrence (i.e. the likelihood) – takes into account the anticipated frequency of occurrence but also considers both the presence of the hazard and receptor, and the integrity of the pathway.

14.3.13 The sensitivity of the receptor can be classed as set out in the following table. When considering off-site impacts there is a general assumption that all developments are highly sensitive. The assumption can, however, typically be relaxed when considering 'Water Compatible' development or undeveloped land.

Table 14.4 – Classification of Sensitivity of Receptor

Sensitivity of Receptor	New Development	Off Site
Very Low	Flood Attenuation Features	-
Low	Water Compatible developments	-
Moderate	Less Vulnerable developments	Undeveloped Land
High	More Vulnerable developments	Other access routes
Very High	Highly Vulnerable developments	All built development unless mitigating circumstances exist. Key access routes

14.3.14 The magnitude of the potential effects is classified by looking at the nature and scale of the impacts – including extent of flooding, depth of flooding and the velocity of flood waters. For new developments the assessment is based on the likely post-development situation, for off-site receptors it is based solely on these receptors' likely deterioration

Table 14.5 – Matrix for Determining the Significance of the Potential Effect

Magnitude of Hazard	New Development	Off Site
Negligible	No potential for flooding, or no identifiable impact of flooding	No likely increase in flood severity at any off site location
Very Low	Planned or permitted folding that does not adversely impact the built development	-
Low	All of the following criteria achieved: Flood depths below 0.3m; likely flood duration below one hour; flood proofing measures planned	Likely but unquantifiable small increase of flood depths, durations, flow velocities or extent
Medium	Any one of the following criteria achieved: Flood depths between 0.3m and 1m; flood flow velocity greater than 0.15m/s; likely flood duration in excess of 1 hour; any restrictions to access and egress.	Any other measureable increase of flood depths, durations, flow velocities or extent
High	Any of the following criteria achieved: Flood depths greater than 1m; flood flow velocities greater than 0.45m/s; likely flood duration in excess of 24 hours	Any marked increase (>10%) increase in flood depth, flood flow velocity or flood duration. Any change in flood extent that impacts additional properties including access

14.3.15 It is necessary to understand how regularly a given event or outcome is likely to occur which can be based on historical data, quantitative analysis or based on similar sites. The probability of the potential effect can be ranked as follows:

Table 14.6 – Classification of Probability of Occurrence

Probability of Occurrence	**Potential Effect**
Very Low	It is unlikely that any consequences will ever arise.
Low	It is unlikely that any consequence would arise within the lifetime of the development. Equivalent to an annual probability of less than 0.1% or Flood Zone 1.
Medium	Circumstances are such that an event is possible in the medium term and likely over the long term, although not necessarily inevitable. Equivalent to an annual probability between 0.1 and 1% (0.1 and 0.5% for tidal) or Flood Zone 2.
High	Any consequence would appear likely in the medium term and inevitable in the long term (lifetime of the development). Equivalent to an annual probability of flooding of greater than 1% (0.5% for tidal) or Flood Zone 3.

Note: definitions can be seen in PPS25

14.3.16 The flood risk of the potential effects can then be assessed in the risk matrix as follows:

Table 14.7 – Risk Matrix

Magnitude of Potential Effect		**Likelihood of Occurrence**			
		Very low	Low	Medium	High
	Negligible	Negligible	Negligible	Negligible	Negligible
	Very Low	Negligible	Very Low	Low	Low
	Low	Very Low	Low	Low	Moderate
	Moderate	Low	Low	Moderate	High
	High	Low	Moderate	High	High

14.3.17 Typically flood risks assessed as low, or less, are considered acceptable. If the assessment results in moderate or high risk, additional mitigation measure will be required to facilitate development.

14.4 <u>The Receiving Environment and Sensitive Receptors</u>

Groundwater and Geology

14.4.1 According to the Environment Agency Aquifer maps the site is not underlain by any aquifer.

14.4.2 The site is not located within a designated groundwater Nitrate Vulnerable Zone (NVZ) under the Nitrates Directive although is within a surface water NVZ.

14.4.3 The site sits close to the top of a bank and the land is currently primarily field grass. The ground does not appear to have sufficient porosity for the use of soakaways, but nonetheless the topsoil across the site will realistically have some small amount of porosity to allow some ingress of waters to feed the grass. As the nearby ditchcourse is lower than the site and there is no evidence of surface water or groundwater at the site, it is considered that the will be low risk from any potential groundwater seepage.

14.4.4 Further details in relation to the groundwater, hydrogeology and the receiving environment can be seen in the Flood Risk and Drainage Assessment at ***Appendix 11***.

Surface Hydrology and Drainage on Site

14.4.5 There are no rivers or streams in proximity of the site. The fluvial source in the area is the existing ponds and ditchcourse. Ordnance Survey Level Datum indicates that the ground level at the nearest point of ditch is approximately 89.0 AOD. And the pond to the north of the building is 90.0m. The ground level of the site and finished floor level of the sheds will be typically 91.0m for Shed 1 and 90.75m for shed 2. It is therefore reasonable to assume that even in extreme flooding the site would not be effected by flooding from the ditchcourse or pond.

14.4.6 The FRA identifies the presence of the existing ditch/watercourse to the north and north east and an existing pond to the east and north. The ponds would appear to drain to the nearby ditchcourses to the north. It is considered that the likelihood and impact of flooding from this source is low as the site will be up gradient.

14.4.7 The site has an existing piped drainage system and ponds which outfall to a network of ditches and watercourses to the north and north east of the farm. The existing drainage will be retained with no alterations. The proposals include an attenuation piped system and hydrobrake control to limit discharge. As the existing drainage will be unaffected by the proposals, no flooding will occur from the existing drainage. The attenuation system will accommodate the full attenuation for the 1 in 100 year + 20% climate change worst event.

14.4.8 The mains supply is on a slight down gradient to the site. In the event of a system collapse the total volume of flood waters is not expected to be large enough to cause a flooding event at the site

14.4.9 The site is located within EA classified Flood Zone 1 and is not at risk of extreme flooding, from major sources, with an annual probability of flooding from rivers or the sea of 0.1%. Due to the site being in excess of 1ha it has been necessary to prepare a Flood Risk Assessment for this site.

14.4.10 Further details can be seen in the Drainage and Water Resources Report at ***Appendix 11***.

14.5 Predicted Impact and Evaluation of Significance (Contamination and General Risks)

Assessment of Potential Impacts and Risk Basis for Assessment

14.5.1 The impact assessment has been undertaken according to the following basis regarding the nature and extent of the development:

- The proposed development will house approximately 64,000 birds at any one time.
- Uses of the individual hardstanding areas may include chemical storage.

Sources, Pathways and Receptors

14.5.2 Sources:

- Site development – storage and use of chemicals, fuels and oils and concrete and sediment/silt associated with construction; and
- Accidental release of dirty wash water or chemicals delivered to and stored at, the site entering watercourses.

14.5.3 Pathways:

- Seepage of chemicals to groundwater through permeable ground; and
- Any chemicals/oils which seep into groundwater migrating via baseflow to nearby surface water courses.

14.5.4 Receptors:

Receptors that would be sensitive to changes in the hydrological regime on the site and within the surrounding area include:

- Surface water – to nearby ditchcourse
- Groundwater – Shallow

14.5.5 Impacts:

The principal potential impacts are therefore considered to be as follows:

- Pollution of surface water by oil, fuel or chemicals during construction and decommissioning;
- Pollution of groundwater by oil, fuel or chemicals during construction and decommissioning;
- Pollution of surface water and groundwater water abstractions by chemicals or dirty wash water associated with operations; and
- Obstruction of surface water courses causing flow alteration.

Potential impacts can be considered during three stages of development, the construction stage, the operational stage and during decommissioning.

Mitigation

14.5.6 The main mitigation feature will be the carrying out of all operations within a building and on hardstanding.

14.5.7 Several pollution prevention and drainage management features are inherent within the design of the proposed development; a number of these will provide protection to surrounding water features:

- The floors of the poultry houses will be constructed from reinforced concrete rendering it waterproof and so preventing potential of manure effluent seepage into groundwater.

- During the washing down of the poultry houses all dirty water will be directed to a dirty water tank. Level indicators in the dirty water tanks will be easily visible from the hardstanding area to quickly identify when the tanks need emptying.

- All chemical substances and hazardous materials are to be stored in accordance with EA guidelines.

- Additionally, the use of SuDS will assist with the attenuation of any polluting surface water run-off.

14.5.8 During the construction and decommissioning phases it is possible that spillage of oils or chemicals could occur which could, if uncontrolled, result in the contamination of groundwater beneath the site, or pollution of surface water through run-off from hard standing surfaces.

14.5.9 Mitigation measures during the construction/decommissioning phase will help to manage any identified negative impacts deemed to be significant. If possible, works should be avoided, or sensibly managed, in accordance with adverse ground and /or weather conditions occurring such as heavy rainfall or waterlogged soils.

14.5.10 A minimum 5m wide buffer zone should be left between any works associated with the construction of the proposed development, or the plant itself and any watercourses. Should any of the works during construction be likely to affect a local watercourse (e.g. diversions – whether temporary or permanent), permission will need to be sought from the EA under the Land Drainage Act of 1991 well in advance of construction commencing. At this stage it is not thought that this will be necessary.

14.5.11 The operational phase will involve the wash down of the hard standing area to the front of the buildings and the buildings themselves. Leakage of dirty water could occur if operational practices are not developed and managed efficiently.

14.5.12 Routine use of heavy goods vehicles, cars and other vehicles across the site and chemicals stored and utilised on site, all have the potential to create contamination which could then infiltrate into the shallow groundwater either through cracks in hardstanding, or through run-off onto non-developed or designed infiltration areas.

14.5.13 Given the impermeability of the shallow geology it is unlikely that there could be a major migration of any released contamination, particularly with regards to shallow groundwater.

14.5.14 The storage of polluting materials will be kept to a minimum where practicable, and where less hazardous or inert materials are available these should be specified. For example, construction materials containing sulphides or cement which could potentially alter the pH of runoff will be avoided and the use of

biodegradable hydraulic oils could be considered for construction plant. In addition, absorbent mats/pads, absorbent granules and sand will be made available, and site operatives trained in their use, to deal with any spillages.

14.5.15 The mobile plant, batching plant, materials storage, topsoil storage, and waste disposal facilities will be located at least 20m from any water features. Further to this, the positioning of fuel storage tanks and other potentially polluting materials and maintenance facilities will be on bunded areas of hard standing with dedicated drainage systems.

14.5.16 During construction the use of concrete will be monitored and pre-cast concrete used where possible. Any washing of concrete vehicles necessary on site will take place well away from the watercourse.

14.5.17 During operation any activity that involves significant risk of oil/hydrocarbon spillage will be subject to specific risk assessment under EP Regulations.

14.5.18 The Drainage and Water Resources Report provides a full appraisal of mitigated construction phase impacts to the water environment.

14.5.19 Implementation of these mitigation measures will ensure that residual impacts on the identified receptors and their significance are minimised.

14.5.20 All operations will occur on hardstanding within a building, significant protection from pollution incidents is provided to the underlying principal aquifer and surface waters. The mitigation measures specified will, therefore, minimise any potential impacts. Incorporation of standard best practice during the construction works and during operation will also ensure that no major pollution incidents occur and thus protect the aquifer and surface waters.

14.5.21 The resulting post mitigation impacts are set out in the Flood Risk and Drainage Assessment for the risks from the construction/decommissioning phase and for the operational phase.

14.5.22 Following mitigation, all risks from potential impacts have been reduced to low (or less than) and likelihood is reduced to low likelihood or lower.

14.5.23 In summary the assessment has established that all significant impacts for the construction/decommissioning and operational phases will be mitigated to a minor level (or less) for all identified potential impacts. The risk of impacts are low risk (or

less). This can be seen in the water resources risk management tables at ***Appendix 12.***

14.6 Flood Risk Assessment

14.6.1 A full Flood Risk and Drainage Assessment has been carried out by Woodsyde Developments Ltd and can be seen at ***Appendix 11*** of this report. The assessment follows the methodology set out at section 14.3 above.

14.6.2 The site is located in Flood Zone 1 indicating that the risk of flooding from major sources is low. As such the sequential test, used by planning authorities to direct development away from areas of high flood risk, indicates that the development of this area is potentially appropriate and thus no mitigation or management is required.

14.6.3 The ground is heavy clays and does not have adequate porosity for the use of soakaways. The proposed surface water drainage has been designed for a 1 in 100 year event + 20% climate change.

External Flood Sources

14.6.4 A table of potential flood source for the flood risk assessment can be seen in the full Flood Risk Assessment at ***Appendix 11***. This includes information on flood type, source and potential pathway.

Sensitivity of Receptors:

14.6.5 The proposed development is a building used for agriculture, thus, under the sequential test defined within the NPPF the development would be classified as a “less vulnerable development”. Given this sensitivity has been defined as moderate.

14.6.6 Development in general has the potential to impact the flood risk posed to off-site receptors. All offsite development is considered to have a very high sensitivity to any increase in flood risk and therefore, it is important that any adverse off-site impacts on flood severity or frequency are avoided.

Severity and Probability of Flooding:

14.6.7 The severity and probability of flooding are both fully defined above and the classification of these criteria is discussed in the following sections:

Fluvial

14.6.8 The fluvial source in this area is the existing ponds and ditchcourse. Ordnance Survey Level Datum indicates that the ground level at the nearest point of ditch is approximately 89.0 AOD. And the pond to the north of the building is 90.0m. The ground level of the site and finished floor level of the sheds will be typically 91.0m for Shed 1 and 90.75m for shed 2. It is therefore reasonable to assume that even in extreme flooding the site would not be effected by flooding from the ditchcourse or pond.

Drains and Ponds on Site

14.6.9 The site has an existing piped drainage system and ponds which outfall to a network of ditches and watercourses to the north and north-east of the farm. The existing drainage will be retained with no alterations. The proposals include an attenuation piped system and hydrobrake control to limit discharge. As the existing drainage will be unaffected by the proposals, no flooding will occur from the existing drainage. The attenuation system will accommodate the full attenuation for the 1 in 100 year + 20% climate change worst event.

14.6.10 An examination of the drainage in the vicinity during the FRA site visit identifies on the presence of the existing ditch/watercourse to the north and north-west and an existing pond to the east and north. The ponds would appear to drain to the nearby ditchcourses to the north and north-east. It is considered that the likelihood and impact of flooding from this source is low as the site will be up gradient.

Drainage and Mains Supply

14.6.11 The mains supply is on a slight down gradient to the site. In the event of a system collapse the total volume of flood waters is not expected to be large enough to cause a flooding event at the site.

Overland Flow

14.6.12 The site is on a slope predominantly from south to north. The ground falls away from the site to the north and west to the ponds and ditchcourses. It is considered that there will be no potential pathways identified for flooding from overland flows. Any additional French drainage will connect to the site drainage attenuation.

Groundwater

14.6.13 The site sits close to the top of a bank and the land is currently primarily field grass. The ground does not appear to have sufficient porosity for the use of soakaways, but nonetheless the topsoil across the site will realistically have some small amount of porosity to allow some ingress of waters to feed the grass. As the nearby ditchcourse is lower than the site and there is no evidence of surface water or groundwater at the site, it is considered that the will be low risk from any potential groundwater seepage. From the Environment Agency Flood Maps the site is not underlain by any aquifer.

Summary of Risks:

14.6.14 The probability and severity of each type of flooding has been assessed in line with the methodology and guidance set out in the NPPF. This is then combined with the assessment of receptor sensitivity to define the level of flood risk on a scale ranging from negligible to high. The risks are set out in the Drainage and Water Resources Report at ***Appendix 11***.

14.6.15 Typically risks assessed to be low or less are acceptable whereas risks assessed to be moderate or high require additional mitigation or management to enable development to proceed. All the risks to the development are assessed as being either low or very low. Thus, no further mitigation or management is required in respect of flood risk.

Internal Flood Sources:

14.6.16 Increases in the area of the site covered by impermeable surfaces will lead to higher peak flows from the site and faster flows off the site. This will then discharge into the local drainage system and could contribute to increase flood risk from the local ditches and watercourses and downstream of the site. The sensitivity of the receptor is classed as low and a low magnitude of potential. The resulting impact is low.

14.6.17 Increased surface water runoff from increases in impermeable areas poses a high risk of flooding to downstream receptors and will require mitigation. However, all surface water run-off will be collected and attenuated such that run-off is maintained to existing Greenfield run-off rates.

Flood Risk Mitigation:

Site Drainage Systems

14.6.18 The proposals will result in a relatively small increase of area being converted to an impermeable surface (hardstanding and roofs). The increase in impermeable surface area could have an impact on receptors downstream of the site and mitigation is required.

14.6.19 EA's policy for site redevelopments is that run-off from a site should not be increased. Drainage systems for the site should be designed based on the 1% annual probability design event. Additionally, potential increases in storm severity associated with climate change need to be considered (20% increase in rainfall depths).

14.6.20 Site drainage has been designed based on sustainable drainage principles as laid out in guidance documents including NFFP. The most preferable option for drainage receptors is infiltration drainage or, where this is not possible, or does not provide sufficient capacity; attenuated discharge to a pond or watercourses should be sought. Discharge to sewers should only be considered where the above options are not available. Unfortunately the site has insufficient porosity and a suitably sized attenuation system will be provided for the extensions and development. Cut-off drainage and will be utilised to prevent surface water run-off and capture any residual exceedance flows where appropriate. In all likelihood there will be less run-off to the watercourse than exists. Moreover the waters are likely to be cleaner as these will be off sheds rather than any crops that may have been planted in the field.

14.6.21 The EA's standing policy for site redevelopments is that runoff from a site should not be increased and that a decrease of site runoff towards Greenfield levels is desirable. Where possible, this should be done using Sustainable Drainage Systems (SuDS).

14.7 Drainage Assessment

14.7.1 A full Drainage and Water Resources Report prepared by Woodsyde Developments Ltd can be seen at ***Appendix 11*** of this report which follows the methodology set out in section 14.3 above. The findings of this report have been set out in this section. The drainage layout and soakaway calculation have also been included at ***Appendix 11***. It is proposed to maintain the existing surface water run-off from the site in accordance with the Technical Guidance to the National Planning Policy Framework (NPPF) and good practices. The surface

water from the existing units currently discharge to a piped system, which crosses the site and discharges to nearby ditches to the north west of the application site. The ditches connect to larger watercourse which flow to the north and north-west. The surface water run-off from the proposed extensions will collected and attenuated in separate piped systems and will have a controlled flow to the existing piped system serving the farm.

Drainage Details

14.7.2 Woodsyde Developments have undertaken surface water run-off calculations for the proposal; these are provided at ***Appendix 11***. Environment Agency guidance requires that surface water run-off is limited to the greenfield (pre-development) run-off rate for all events up to the 1 in 100 year storm (including additional climate change) or that a reduction to the existing surface water runoff is achieved.

14.7.3 The volumes of storage required to limit predicted runoff rates to original Greenfield rates have been calculated. The Greenfield run-off rate from the proposed extension to the buildings will be negligible due to their size. The design is based on the recognised and accepted standard of 5 litres per second per hectare and to enable a suitably sized orifice can be provided in the flow controls, such that maintenance issues become over bearing.

14.7.4 Post-development run-off rates have been calculated in order to determine the additional storm water storage required to limit the potential increase in discharge to Greenfield run-off rates. Run-off rates post-development, for a range of storm durations, have been estimated using the Rational Method. Run-off rates have been calculated for the 1 in 100-year event, with an allowance for a 20% increase in rainfall to account for climate change (as specified by the Environment Agency).

14.7.5 The discharge rate from the proposed attenuation features would be limited to the Greenfield run-off rate (an outflow of same 5.0l/s) to ensure that attenuation and rates of discharge are adequate for all events up to and including the 1 in 100-year event + climate change.

14.7.6 The volume of storm water storage required to attenuated flow to the Greenfield runoff rate (i.e. an assumed outflow of some 5.0 l/s maximum), for a storm duration of 24 hours (to give the greatest storage volume), is some 5.4m3. This storage capacity is proposed to be provided in an attenuation pipes located around the proposed shed extensions.

14.7.7 Discharge from the attenuation system should be located at its base to ensure that sufficient storage is provided above this level and the feature fully drains ready for any subsequent storm events. It is assumed that any construction of flood storage sites will incorporate a suitable mechanism (e.g. hydro-brake) to limit the discharge off-site to the required flow of 5.0/s.

14.7.8 The drainage design for the oversized pipes allows for full attenuation of the worst case event.

Assessment of Residual Impact Significance

14.7.9 Although no significant flood risks have been identified appropriate SuDS will be deployed to ensure the development does not contribute to flooding of downstream receptors. With regards to flood risk, the application of SuDS will ensure runoff from the site will remain at Greenfield levels, resulting in no impact on flood risk.

14.8 Surface Water/Groundwater – Application and Storage of Poultry Manure

Land Available for Spreading

14.8.1 The system uses a belt system for the removal of manure. The droppings fall onto manure belts and remains dry and friable. This allows the weekly removal of manure which is moved off site to be stored in suitable temporary field heaps to be spread on land farmed by T S & C Powell.

14.8.2 All manure will be stored and spread on the farmstead and land managed by the applicant; this will mean that additional manures from third parties will not be required on the lands.

Manure and Dirty Water Production/Storage

14.8.3 The sheds once empty of birds will be provided with a final clean, although most of the manure will be removed on a weekly basis. The residual manure will be brushed out and heat treated to kill any bacteria. Small areas may require washing down prior to the heat treatment; this dirty water will be collected in a piped system and diverted into a dirty water tank. All waters collected will be tankered away and spread on the farmlands. Vales are provided in the dirty water system to prevent any water entering the main clear water system.

14.8.4 The manure will be removed from the poultry unit weekly and will then be spread direct to the fields or stored in field heaps before being applied to the land. The regulations allow certain types of solid manure to be stored temporarily in field heaps, provided they are located and constructed in accordance with the following rules:

14.8.5 Poultry manures can only be stored in field heaps if they are solid enough to be stacked in a free-standing heap and do not give rise to free drainage from within the stacked material. Poultry manures without bedding/litter which is stored in a field heap with an impermeable sheet. There should be no storage within 10m of a surface water or land drain, within 50m of a spring, well or borehole, on land likely to become waterlogged, on land likely to flood, or in any single position for more than 12 successive months.

All sites used by TS & C Powell for storage are located on sites that accord with the above regulations. Sufficient numbers of sites are available across land controlled by the application and each of them has an unlimited capacity for the storage of poultry manure produces by the proposed poultry development.

Discussions

14.8.6 The limitation on stocking rates at the proposed poultry unit is the availability of land. Sufficient land is within the applicant's land holding in order that manure may be applied to land in a way that is beneficial to crops and presents a minimal risk of pollution to surface waters in line with the Nitrate Pollution Prevention Regulations and the DEFRA Code of Good Agricultural Practice for protecting Water, Soil and Air.

Mitigation

14.8.7 Regular soil testing is carried out by the applicant across the land farmed, with the nutrient levels of the soils recorded; these figures are used to accurately programme the amount of manure spread on the lands.

Cumulative Effects

14.8.8 Consideration of other potential planned or permitted development in the locality is required to determine whether there is a potential for additional impacts arising from proposed development which may arise from other developments. The main potential risks associated with development is increased areas of hardstanding.

The potential impacts include increased flood risk and increased risk of chemical and dirty water contamination. However, no cumulative impacts were identified.

On-going Actions

14.8.9 Surveillance monitoring will be undertaken to ensure that no detrimental impacts occur during the site construction, decommissioning and operation. This surveillance monitoring should include specific water quality monitoring for shallow groundwater and surface water monitoring; it will be carried out by the site operator/applicant.

14.9 Conclusions

14.9.1 The site is not located over an aquifer, so there will be no residual risks to ground water. The proposed drainage system will be provided in a sealed pipework system to an attenuation system and will discharge at practical Greenfield rates to the existing site drainage and onto the ditchcourse to the north of the site.

14.9.2 The surface water drainage to the site has been properly prepared and Suds techniques have been used to slow and restrict surface water from the development and site where possible. The proposed attenuation pond has been designed to accommodate the full required attenuation for a worst case event of a 1 in 100 year storm + 20% climate change.

14.9.3 The proposals for the surface water will not result in increased flows from the site and will seek to control run-off where the existing site has no controls. The proposals will seek to reduce the likelihood of flooding to the site or downstream.

14.9.4 The result of this flood risk assessment/drainage report shows that the site is not within a flood zone, where there is little likelihood of flooding either on the site as a result of development or to any land downstream or elsewhere.

14.9.5 It has been indicated that the proposals mitigate any likely flood risk posed by the site and will have no demonstrable adverse effects elsewhere from the proposals. With the provision of a managed controlled system, neither the site nor the area outside of the site will be at potential risk from a future 1% flood event.

14.9.6 A suitable means of dirty water drainage disposal already exists to the units and will not alter as a result of the small extension to the sheds.

14.9.7 The development of and operation of a poultry unit on this site have the potential to negatively impact on the hydrology and hydrogeology of the area through the contamination of surface water and groundwater. Utilising appropriate construction techniques (see NPPF guidance) and good design will ensure that these risks will be successfully mitigated.

14.9.8 There will be no significant impact on drainage or flood risk as a result of the proposed development.

CHAPTER 15

SUMMARY & CONCLUSIONS

15.0 SUMMARY AND CONCLUSIONS

15.1 The following table summarises and concludes the previous technical assessment chapters with regards to the proposed poultry development at Burlton Lane Farm.

Table 15.1 – Summary and Conclusions

Key Issue	Potential Impact	Principal Mitigation	Residual Impact Significance
Air Quality, Health & Climate	Effects on designated habitats & ammonia emissions & deposition	Ammonia impacts screened out – detailed modelling not required	Minor significance
Landscape & Visual Impact	Direct impacts on landscape features	Existing site, levels & landscape work & sensitive building design	Minor significance
	Landscape character	Existing site, levels & landscape work & sensitive building design	Minor significance
	Visual Amenity	Existing site, levels & landscape work & sensitive building design	Minor significance
	Lighting	Minimise light spill & timing of lighting	Not significant
Historic Environment & Archaeology	Impact on setting of heritage assets	Existing site, levels & landscape work & sensitive building design	Not significant
	Direct impact on Archaeological features	N/A	Not significant
Traffic	Increase in HGV traffic	N/A	Not significant
Amenity	Odour	Management practices & built in controls. Best Available Techniques (BAT) to reduce odour from manure.	Minor significance
	Flies	Follow best practice guidance & ensure control measures are in place	Not significant
	Vermin	Management practices and maintenance to prevent breach of stores etc.	Not significant
	Dust	Management practices and use of BAT to reduce dust	Not significant
Ecology	Designated sites	Choice of site & good design	Not significant
	Grassland	Choice of site & good	Not significant

		design	
	Trees & hedgerow	N/A	Not significant
	GCN, reptiles	N/A	Not significant
	Bats	N/A	Not significant
	Badgers	N/A	Not significant
	Birds	Avoid bird nesting season if work to tree/hedges	Not significant
Noise and Vibration	Operation of unit & plant machinery	Noise management to form integral part of day to day management	Minor significance
	Traffic noise & vibration	Sensitive timings of vehicle deliveries, managing peak flows	Minor significance
Water Resources	Construction & Decommissioning – water quality (surface runoff/infiltration)	Use of appropriate bunding & storage, monitoring of operations & training staff in emergency procedures	Insignificant impacts – low risk
	Operations – pollution by oils, hydrocarbons & dirty water (runoff, direct infiltration)	Adequate dirty water storage and operations to take place in buildings & on hard standing. Compliance with EA guidance and EP, use of bunded areas, storage of chemicals, oils etc. in appropriate areas and tanks etc.	Insignificant impacts – low risk
	Flood Risk	Sustainable Drainage Systems (SuDS)	Not significant
	Surface water and ground water pollution	Adhere to Nitrate Pollution Prevention regulations or Code of Good Agricultural and Environmental Policies	Not significant