



# Proposed Poultry Units South East of Hopton Heath Shropshire

Planning Application  
Reference 17/04546/EIA

Objection of Clungunford Parish  
Council

November 2017

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## EXECUTIVE SUMMARY

In the view of Clungunford Parish Council planning permission should be refused on the following grounds:

- The application does not meet the guidelines set out by the Core Strategy as the proposed development:
  - is overscale and has a detrimental visual impact
  - does not demonstrate any benefit for the community in which is sited
  - is likely to have a materially adverse effect on local tourism
  - does not demonstrate sustainability
- Significant environmental problems are likely to occur including:
  - unacceptable levels of noise pollution
  - unacceptable odour emissions
  - risk of catastrophic damage to the habitat of an endangered species
- Flagrant underestimates of the noise and traffic created by the proposed development

Additionally, the Parish Council has reason to believe that the applicant is operating its nearby site at Heath Farm in breach of existing planning consents. This presents a number of questions as to the economics, sustainability and even the morality of developments of this type. The Parish Council requests that Shropshire Council consider the evidence presented in this objection in detail as part of a wide ranging review of its policies on the siting of large poultry units.

## INTRODUCTION AND BACKGROUND

This is a new application, and it must be borne in mind by Shropshire Councillors that despite its history all aspects of it must be considered with fresh eyes and minds. Councillors are not bound by findings of fact previously made by other Councillors or even by previous Planning Inspectors. Councillors now have to make up their own minds on **all the evidence** now before them. It is a principle worth remembering throughout. The case for the applicants' appears to centre on one issue, and this is not the correct approach.

### Background

The application for planning permission for the construction 216,000 square feet of broiler houses in Hopton Heath was first mentioned by the applicants' then agents to Clungunford Parish Council a few days before it was submitted in the summer of 2014 (reference

14/03290/EIA). The application had evidently been in gestation since autumn 2013. As a Parish Council we declined to comment before gauging public opinion on what was far and away the largest building project ever proposed in the village. A public meeting was held – the first of several over a number of months. The applicants and their agents declined to attend. From the public meeting and other soundings within the parish it was apparent that there was unanimous opposition to the project on a number of grounds.

The Parish Council lodged an objection to the proposal in the strongest terms, stating its grounds. Many members of the public, not only from the village but from far and wide, submitted objections, and there was no public support for the application save from those with an economic connection to the applicants. Notwithstanding these objections, the application was given conditional approval by the Shropshire South Planning Committee on 9 December 2014 by a majority vote, subject to the consent of Natural England as statutory guardian of the nearby Special Area of Control, the River Clun, which is home to the rare freshwater pearl mussel. The consent was finally given 8 May 2015 without further reference to the Planning Committee.

The Parish Council received advice from experienced planning counsel that there were reasonable grounds to impugn the decision to grant consent. Shropshire Council was given due notice of these grounds, and in the absence of a reply within the deadline given, proceedings for judicial review were issued. One of the grounds was that the consent of Natural England was vitiated, and little did the Parish Council know at the time of issue that the consent had not even been granted. Against this back-cloth Shropshire Council acceded to the quashing of the consent and paid the Parish Council's costs. It cannot be overemphasised that the lack of consent was not the only ground complained of in the judicial review proceedings.

After a formal but heavily conditional consent from Natural England the application was returned to the Shropshire South Committee on 6 October 2015. On this occasion Councillors voted to refuse consent. One Councillor considered that in the 2014 meeting "she had been duped" in relation to the water-course adjacent to the development site that had previously been described as a "dry ditch".

During the winter of 2015-16 the applicants expanded their existing poultry units at Heath Farm by a further 25%. Their planning consent from Herefordshire Council to do this was not referred to in the application, although clearly material, notwithstanding there being a signed statement of truth.

At the eleventh hour for appeals the applicants appealed to the Secretary of State, this time employing a new agent to represent them. The appeal was rejected (APP/L3245/W/16/3146508 dated 25 May 2017). In the course of the appeal the Inspector called for fresh noise reports, which showed markedly different noise levels from those in the report previously accepted by the planning executive of Shropshire Council.

The residents of Clungunford in general, and those of the affected hamlets of Hopton Heath, Broadward and Beckjay in particular, had assumed that was the end of the matter. However, given that the applicants have submitted a second application – without fee - in much the same terms as before save for some slight noise attenuation measures, the level of local opposition is judged by the Parish Council to be at, if such is possible, an even higher level than before. The general perception is that the applicants are in fact being totally disrespectful of their near neighbours and are trying to wear down opposition to their plans, and even at this late stage the Parish Council would invite them to consider those feelings and pursue other means of achieving their goals.

At the time of writing this submission it is to be observed that the responses to the public consultation published on the Shropshire Council website show 88 objections and 5 endorsements, the latter all coming from those with an economic tie to the applicants. The objections include many neighbouring farmers.

## THE OBJECTION

The application falls to be considered within the policy guidelines of the National Planning Policy Framework published in March 2012 (“NPPF”) and Shropshire Council’s Core Strategy published in March 2011. The Parish Council is strongly of the view that the application does not sufficiently meet the criteria laid down in either policy document, such that Shropshire Council should refuse planning permission.

It is appropriate to consider first the policy guidelines.

The NPPF has a general approach of supporting “sustainable development”, and in particular with regard to the rural economy it is stated under the heading of Chapter 3 and in paragraph 28 (“Supporting a prosperous rural economy”) that local plans should facilitate this. The Core Strategy executes this national policy in the following way.

The Spatial Vision – Shropshire in 2026 sets out the objectives of the Core Strategy. The following are relevant (page 29):

*In rural areas, new development of a scale and location appropriate to the size, role and function of each settlement will have delivered significant community benefit, helping places to be more sustainable. Rural areas will stay rural and villages will retain their separate, distinctive and varied character. Village based services will have become more economically resilient and strengthened.*

*New development which has taken place within Shropshire will be acknowledged by others as being of high quality sustainable design and construction that promotes safer communities, is respectful of local character, and planned to mitigate, and adapt to, the impacts of climate change.*

*Shropshire will have a thriving, diversified local economy, with a growing enterprise culture. It will have raised its profile as a recognised location for business development and as a tourism destination, capitalising on its unique landscape and heritage assets without damaging their value for residents and visitors.*

The comment is made at page 30:

*Farm diversification, food and drink processing, the environmental economy, green tourism and leisure will be expanding areas of economic activity. Agriculture and farming will still be a prominent and successful economic sector.*

The Spatial Vision is to be achieved by the Strategic Objectives, of which the most relevant is C5 ("Countryside and Green Belt") at page 65 et seq. The following edited paragraphs are germane in the context of this application:

*New development will be strictly controlled in accordance with national planning policies protecting the countryside .....*

*.....development proposals on appropriate sites which maintain and enhance countryside vitality and character will be permitted where they improve the sustainability of rural communities by bringing local economic and community benefits, particularly where they relate to:*

- *Small-scale new economic development diversifying the rural economy, including farm diversification schemes;*

*... With regard to the above ... [type] of development, applicants will be required to demonstrate the need and benefit for the development proposed. Development will be expected to take place primarily in recognisable named settlements or be linked to other existing development and business activity where this is appropriate.*

- *Agricultural/horticultural/forestry/mineral related development, although proposals for large scale new development will be required to demonstrate that there are no unacceptable adverse environmental impacts;*

- *The retention and appropriate expansion of an existing established business, unless relocation to a suitable site within a settlement would be more appropriate;*

The following is offered at paragraphs 4.71, 4.72 and 4.74 by way of explanation and elaboration of the C5 policies:

*4.71 The emphasis of this policy is on sustainability and rural rebalance.... The policy seeks to enhance the broader social and economic well-being of rural communities, facilitating development that supports appropriate land and resource based uses and economic diversification and that provides for local needs, including affordable housing,*

*community facilities and infrastructure. It provides recognition that the countryside is a 'living-working' environment which requires support to maintain or enhance sustainability, together with the ability to adapt to the changing needs and circumstances.*

*4.72 However, whilst this policy seeks to facilitate a wide range of beneficial rural development, the operation of this policy..... recognises the need to consider the scale and design of proposals, where development is most appropriately sited, environmental and other impacts. There will be a significant emphasis on achieving quality and sustainability of design, particularly locally appropriate design and use of materials. Thus, proposals which would result in isolated, sporadic, out of scale, badly designed or otherwise unacceptable development, or which may either individually or cumulatively erode the character of the countryside, will not be acceptable. Whilst these considerations will apply generally, there will be areas where development will need to pay particular regard to landscape character, biodiversity or other environmental considerations including in the Shropshire Hills Area of Outstanding Natural Beauty.*

*4.74 Whilst the Core Strategy aims to provide general support for the land based sector, larger scale agricultural/horticultural/forestry/mineral related development, including livestock production units, poultry units, greenhouses/poly tunnels and mineral extraction, can have significant impacts and will not be appropriate in all rural locations.*

At C6 on page 69 it is provided that it must be ensured that all development (inter alia)

*....protects, restores, conserves and enhances the natural, built and historic environment and is appropriate in scale, density, pattern and design taking into account the local context and character, and those features which contribute to local character, having regard to national and local design guidance, landscape character assessments and ecological strategies where appropriate.*

We have set out *in extenso* the relevant policy provisions because it is important that Shropshire Council keeps sharp focus on them.

The requirements of Policy CS5 are, therefore, quite clear. Before development is permitted it must be established that

- the site is appropriate
- the development maintains and enhances countryside vitality and character

- the development improves the sustainability of rural communities by bringing local economic and community benefits
- and further in relation to large scale new agricultural development, it must be demonstrated that there are no unacceptable adverse environmental impacts

It cannot be overemphasized that these requirements are **cumulative**. It is not merely the case that the applicants have to satisfy one or more or even most of the conditions: they must satisfy **all of them**. The bar is set deliberately high by policy makers. In assessing the application against those conditions, the Parish Council submission is that the application must inevitably be rejected for the following reasons.

### **A. Scale and situation**

The application affects part of a large block of agricultural land bordered by the hamlets of Hopton Heath to the west, Broadward to the south and Beckjay to the north-east. It is a mosaic of smallish fields, typical of the area and to a pattern formed over several centuries. Other than farm buildings and cottages at Beckjay and an isolated barn conversion at Broadward, which are all on the periphery, the whole block has for generations been used for mixed arable and livestock farming. Residents of Clungunford and the hamlets have previously fought hard to preserve this block as agricultural land in the face of a previous application for two poultry sheds a short distance away to the east from the present site at Broadward (see refusal 1/01830/0 dated 19 December 1991).

We are faced here with an application for over 115,200 square feet of sheds and service structures of appearance indistinguishable from those found on any urban industrial business park. These sheds are sited upon a larger concrete pad with a lengthy concrete accessway. We have already made the point that in terms of scale the application is by far the largest ever made in Clungunford Parish or, We believe, in neighbouring parishes for some miles around. Any of the individual units would be larger than any existing building in the parish. The scale and contrast with existing structures is indeed startling. Although classified as an agricultural use, this is factory farming: the proposal is widely regarded as a borderline light industrial use, and the residents of Hopton Heath, Beckjay and Broadward see it in that light (or worse due to the 24 hour nature of the proposed operation). In practice, this is a dramatic change of scale of use from the current agricultural user.

Whilst it is accepted that the applicants have tried their best to minimize visual impact, the inescapable fact is that the presence of the development will be blindingly obvious, both day and night.

Tree planting will not solve the problem of visual impact. If evergreens are used, they will be totally out of character with the existing trees and hedgerows in and around the site. If deciduous trees are used to blend in with the existing tree cover, then, of course, they will not serve their purpose when without leaves.

The situation of the proposed units is such that they are close to Broadward Cottage (270m in this instance), the Ashlea Pools Country Park complex, Broadward Hall Lodge and Heath Lodge. A modest residence at this distance would hardly impact on any of these properties, but that would not be permitted on current policies. Instead, the owners are being subjected to what is to all outward appearance an industrial estate of some magnitude. There will be a valuation impact on these named properties and indeed much further afield in the vicinity.

In the explanatory words of paragraph 4.72 of C5 this application is both isolated and out of scale with its surroundings, and so in policy terms it is not acceptable. The proposed development is sadly out of character with the landscape, and whilst the site is not within the Shropshire Hills Area of Outstanding Natural Beauty, it is certainly clearly visible from one of the most visited spots in the AONB, Hopton Titterhill to the west and also from the well walked Herefordshire Trail behind Stormer Hall to the east. It is visible from roads around the site and from nearby footpaths. It is visible from some residences in Hopton Heath and visible from The Lynches to the east.

In this context we think we can do no better than refer to the reasons given for the refusal in 1991:

“The proposal represents an unacceptable visual intrusion into the landscape as the application shows the erection of two large, industrial type buildings in an area of gently rolling countryside.....”

The policies have changed, but the aesthetics remain.

The conclusion at para 7.1.4 of the additional landscape statement of Alan Moss dated March 2016 that “the proposed development would maintain and enhance countryside character” is

at best a somewhat startling expression of opinion not shared by the rest of the world, let alone the residents of Hopton Heath, Broadward and Beckjay in particular.

Whether the site is “appropriate” is the first test to be satisfied. This test is not addressed at all in the landscape statement or the design and access statement of Ian Pick, but it is nevertheless important. For a development of this nature, which on any footing does have an environmental impact and does affect the amenities of near neighbours, an appropriate site may well be adjacent to or next to existing farm buildings. On the other hand, a site that is in open countryside, visible from the AONB and other surrounding hills and visible from nearby residential houses may not be appropriate. It seems clear that *in limine* the Planning Authority must be sure of the appropriateness of the site. We say that the site, viewed objectively (and an objective test it is), is not appropriate. Putting it simply, the ordinary man looking out on the large undeveloped block of agricultural land that is the proposed development site would be likely to say that the development site is not “appropriate”. On the other hand, looking at Heath Farm from the highway, the same man may well conclude that a further development there (although probably not as large) is not inappropriate on the grounds that the damage has already been done. We say this preliminary test is of particular importance because of the potential of further development at Heath Farm. Of course, unknown to the Councillors determining the fore-runner of this application previously, there has been subsequent expansion of the broiler units at Heath Farm by around 25% of unit space. The appropriateness of the proposed development site and neighbouring land to the east of the site for development as poultry units has now been rejected by two councils – Shropshire with the fore-runner of this application in 2015 and its predecessor, South Shropshire in 1991 – as large scale development inappropriate to its surroundings (SS reference 1/01830/0 dated 19 December 1991).

The development must maintain and enhance countryside vitality and character. This is a conjunctive need for both maintenance and enhancement. In other words, the policy seeks positive progress as the price for sacrificing the countryside: preserving the status quo is not sufficient. Even at a lower threshold of mere maintenance, were that to be the test, it is difficult to see how the policy can possibly be satisfied, and at the higher level of enhancement, the argument is a non-starter. As far as “vitality and character” are concerned, plainly no “character” is added to the locality by the proposed development, and it is difficult to see how “vitality” is increased either. From the evidence of the existing unit at Heath Farm, which is just outside our parish and county boundary, there has been no known maintenance or enhancement of vitality and character, although it has been in operation for a decade or more. The evidence of the Heath Farm existing operation is an obvious benchmark to apply.

The development must improve the sustainability of rural communities by bringing local economic and community benefits. There is no doubt that the development will bring economic benefits to the applicants and some businesses in the wider region, but these poultry allied businesses are unlikely to suffer significant or permanent loss in revenue, as the proliferation of new poultry units in Shropshire, Herefordshire and Powys continues apace. The policy is clear that the sustainability of local communities must also be improved by economic and community benefits. There is no evidence whatsoever to suggest that the immediate local community will benefit in any way. We will expand on this below, but it is plainly obvious that there will be economic effects on the residents of Hopton Heath in terms of reduced property values and no social benefits. Plainly again, local tourism cannot be enhanced by the proposal, and we do not mean here the negative landscape effects on visitors generally, but the impact on bookings on the many holiday units dotted around the whole block of land of which the development site forms part.

Large scale agricultural developments must further demonstrate that there are no unacceptable environmental impacts. Note that this is an additional requirement for such developments: they must still satisfy the other pre-conditions of CS5 for the policy to apply. It is not the policy that large scale agricultural developments are permitted if otherwise they satisfy environmental criteria. In fact, none of the reports on odour, noise, ammonia impact etc submitted with the application conclude that there will be no impact. The residents of Hopton Heath, Broadward and Beckjay already suffer periodic discomfort from the operation of the existing units at Heath Farm. At the very least, there is likely to be a doubling of the discomfort due to the proposed development and Heath Farm being operated on two different cycles. Accordingly, there are likely to be around 20 to 30 days each year when neighbours and those in the wider area are afflicted by an offensive odour. This is manifestly unreasonable.

Policy CS5 must be read in the light of the explanation published with it in paras 4.71, 4.72 and 4.74. It is said that “the policy seeks to enhance the broader social and economic well-being of rural communities...” It is further stated that “..proposals which would result in isolated, sporadic, out of scale ...development or which may individually .....erode the character of the countryside, will not be acceptable”. And then it is stated: “Whilst the Core Strategy aims to provide general support for the land based sector, larger scale agricultural development, including...poultry units..., can have significant impacts and will not be appropriate in all rural locations”.

We now offer comments on the landscape statement of March 2016, as this appears to be the main statement replied upon. It is a report that was commissioned to assist with the failed appeal in the fore-runner of this application, but is relied upon here without alteration.

Para 1 to para 6 require some comment as follows:

(a) In para 1.1.5 a continuing error is repeated. The complaint in the judicial review was not merely procedural, but extended to issues such as whether proper regard had been had to CS5. It would appear that the author of the landscape statement has not seen the claim.

(b) Para 2.24 does not mention that the development would be clearly visible from various points within the high hills to the west of the site or from the hills to the east. The hill to the west is Hopton Titterhill, an area that the Forestry Commission freely makes available to ramblers and other leisure users. It is very well used. The Herefordshire Trail very clearly overlooks the site from Stormer Hall to the east.

(c) In para 2.2.6 the reference to the admission that there may be a “moderate to minor” effect on landscape character is telling. It is not the same as “immaterial” or “insignificant” or merely “minor”.

(d) The assertion that the proposed development would not have any impact on the ANOB is questionable and in any event subjective. Other sites the applicant may have had in mind may well have been of greater impact, but that is a matter of little or no relevance to the issue in this case

(e) The findings summarised in para 2.2.8 are open to the following criticisms:

(i) the assertion that the visual impacts on road and footpath users – and let us be frank, we are concerned here also with the effect on tourists – would be minor “in most cases” is in fact a tacit admission that in some cases the impact will be greater i.e. moderate or more. It is an admission with which we entirely concur. With the proliferation of chicken sheds in Shropshire, Herefordshire and Powys most road users have come to recognize these large scale developments very easily. The size of them tends to arrest the vision. They are extraordinarily difficult to disguise, and the necessary reliance on conifers in an attempt to screen does little other than to draw further attention to the sites.

(ii) the assertion that the buildings may be “slightly visible from certain locations in Hopton Heath, including upstairs windows” is a litotes. They will be clearly visible, and it is self-serving of the applicant’s case to use the adverb “slightly”. Further, as mentioned in the judicial review claim, the site is clearly visible from the Lynches, a listed property on an elevation to the east/south east of the site. There will be similar visibility from the property known as Little Common, a little to the north east of the Lynches off the B4367. There will likewise be visibility of the site in general from the two cottages at Broadward on the B4385. The conclusion that the visual impact on residents is insignificant is highly subjective and not

one with which we would agree. There is attached marked as Appendix A a bundle of captioned photographs and plans to illustrate the points made.

(iii) it should be noted that Ashlea Pools has consented plots that would take the developed park much closer to the B4367 than at present (reference SS/1/06/17803/F (11/04496/AMP))

(f) The comments made in para 3 of the landscape report, which relate to background, must of course be read against the back-cloth of the serious misrepresentations contained in the development report to the fore-runner of this application.

(g) The judicial review was not, as alleged in para 4, purely on procedural grounds. Again we can only conclude that the author of the landscape statement has not actually been given sight of the claim

(f) The development report for the second committee meeting was again flawed by the same misrepresentation as that for the first committee

(g) The reference in para 5.2.5 of the landscape statement should be to "Clungunford Parish Council": the same mistake is made in the Shropshire Council minutes. Landscape issues certainly were mentioned by speakers.

(h) At para 5.2.8 of the landscape statement it is sought to use the decision of the committee on 9 December 2014 as a precedent to criticise the decision on the 6 October 2015. The earlier decision was impugned on a number of grounds, which included landscape related matters, and it was quashed by judicial process. If useful precedent is needed, and oddly it is not mentioned in the landscape statement or any of the development reports, it is the decision of South Shropshire District Council (predecessor to the unitary authority) to refuse permission for a similar, but much smaller poultry unit development on a site immediately to the east of the appeal site in 1991 (refusal 1/01830/0 dated 19 December 1991). The decision there was

*The proposal represents an unacceptable visual intrusion into the landscape as the application shows the erection of two large, industrial type buildings in an area of gently rolling countryside.....*

With regard to the Additional Observations set out in para 6 of the landscape statement we would comment as follows:

(a) whilst the development site is not in the AONB, it is close to the AONB, it is adjacent to and visible from some of the primary approach roads to the AONB and is visible from the AONB. In the landscape this is an important block of land.

(b) that the development site may be classified as "Estate Farmlands" type and that other poultry units may have been approved elsewhere in the Shropshire is not a precedent for approving one in this part of the Clun Valley. Of the cases referred to, many different

considerations would apply to the individual cases. Many may have received little or no objection. The majority, if not all, represent development within existing clusters of farm buildings. This is a development that affects a previously unbroken block of land that has been part of the landscape since time immemorial. It is also a development that is uncomfortably close to residential properties and in an area that has tourism as a main industry

(c) the existing unit at Heath Farm can hardly be said to form part of the character of the local area. The character of the immediate area and of the Clun Valley generally consists of comparatively small stock farms where buildings are found in a cluster around the home-stead

(d) the assertion that this low-lying site can be developed by units of this size “without giving rise to unacceptable effects on landscape character” is bold and serving only of the applicant’s case. Standing back, always a useful thing to do, is it remotely likely that the ordinary man when comparing the present view of the development site from the B4367 with the same view of a completed development would do anything other than conclude that the landscape character of the area had been seriously impaired? The question only has to be asked to know what the clear answer is

(e) the assertion that the proposed development is not unusual and is typical of many that have been approved in Shropshire does not mean that this development should ipso facto be given approval. Whilst these developments may be found in some parts of Shropshire, Herefordshire and Powys, individually and in the aggregate they have contributed to a change in landscape character. Each one produces a “wow” factor, and certainly in the Clun Valley such a development would make a larger impact than in other places where perhaps agriculture has become more mechanised or industrialised. Certainly, no one “expects” to see buildings of this size in the Clun Valley: the observation to the contrary is entirely rejected

(f) the claim that this development would have a minimal impact on the landscape and its surroundings, even with the landscaping and use of materials proposed, can only be said to be highly subjective and serving only of the applicant’s case. It is not an observation that would, we suggest, be shared by many, if any, when viewing the matter objectively

In the para 7 of the landscape statement of March 2016, it is again stated that because the second committee meeting decision was at variance with the first committee decision and because in landscape terms the application had not changed in the interim, the second committee decision was inconsistent and unsound. Logically, that is a nonsense, as equally the first committee could be said to be unsound. The second committee decision unquestionably found the first decision to be wrong. That is the decision the applicant appealed against unsuccessfully. The landscape statement complains or implies that there was no evidence upon which the councillors could make their decision. Factually, that is not correct, as many of the councillors participated in a site visit and saw the site and its setting

for themselves. Others, we are aware, have visited the site as individuals or were otherwise familiar with the site. The councillors in their decision arrived, we would suggest, at the decision the ordinary man would, viewing the sight objectively – it is the wrong site for a development of the type proposed. It is noteworthy that the Inspector rejected this argument on inconsistency conclusively.

We have already commented at above on the conclusion drawn in the first sentence of para 7.1.4 of the landscape statement. In landscape terms it is of great significance that a business is expanding its operation from a long-established cluster of buildings on one site to a second site several hundred yards away: that cannot be said to be a maintenance and enhancement of countryside character. It is, in our submission, clearly the opposite.

In order to succeed the applicant must satisfy the terms of Policy CS5. Nowhere in either the design and access statement or the landscape statement is the appropriateness of the site discussed. Inevitably, this involves a discussion of alternatives, whether they be at Heath Farm or elsewhere. This is a fundamental failing. Further, there is no evidence adduced whereby it can be said that the development proposal maintains and enhances the vitality and character of the countryside. Nor it is shown that the proposal improves the sustainability of our rural communities by bringing local and community benefits. In these circumstances, it is submitted, the application must inevitably fail.

There are environmental considerations involved in the application, and these We turn to below, but subject to these and existing problems raised by residents being dealt with adequately, several of those attending the public meetings called by the Parish Council on this issue commented that had the application been for units contiguous with the applicants' existing operation at Heath Farm, it is likely that there would have been fewer objections to the proposal from the point of view of scale and situation. We observe that successful poultry unit applications generally involve sites at or close to the farm homestead, not on a stand-alone distant site.

## **B. Sustainability**

In order to succeed the applicants must demonstrate sustainability in the application. This is plain right the way though from the NPPF to C5 and to the explanation at 4.71.

In order to lay claim to sustainability the applicants in summary argue that the establishment of these four units will safeguard the family business unit for future generations. Previous

arguments about the need for profitability, diversification and reducing the exposure of their current arable business to fickle commodity markets appear to have been abandoned after the criticisms of such claims previously made in the forerunner of this application. The applicants are said to be key employers in the area, and the argument continues along the lines that if their business prospers, this is good for agriculture, and that is good for the area. This argument is presumably designed to deal with the requirement in C5 their proposal must *improve the sustainability of rural communities by bringing local economic and community benefits.*

Mr Pick in his Design and Access Statement of September 2017 refers to some hard figures, which have doubtless been supplied by the applicants. He states on page 9 of the statement;

*“Heath Farm is a successful agricultural business producing crops, poultry and fruit. There is also an on farm anaerobic digester.”*

However, had Mr Pick appreciated that by far the largest source of profit within the business is the bio-digester, he would perhaps re-phrase that description as follows:

*“Heath Farm is a successful anaerobic digester business, producing electricity from crops grown specifically to support it, namely maize and poultry. There is also some fruit production.”*

We know from publicly available figures that the output of electricity from Heath Farm is now 550kW, against a planning consent for 250kW in 2010 from Herefordshire Council. This is a substantial increase, and there appears no doubt that the bio-digester at Heath Farm is now the prime driver of profits within the business, taking advantage of the considerable subsidies available on the production of green electricity. So far as can be observed, arable production is now turned over entirely to maize for insertion into the bio-digester. No longer is the bio-digester a means of disposing of waste, as set out in the 2010 planning application, but it has become the consumer of the arable production of the farm. Indeed, it would seem likely that the bio-digester is being fed by material being imported from outside the farm, a practice that does not sit easily with the plant's current planning permission..

There is no objection to the applicants profiting from the bio-digester, providing that the necessary planning consents for increase in output have been obtained, but the size of the bio-digester business does leave open the question of whether Heath Farm is a farm anymore. Is this development primarily for poultry production or is it to feed the bio-digester? Is meat production a secondary issue?

The argument about sustainability must be analyzed closely, and with all respect to the applicants and their agents, once analyzed, the applicants do not satisfy the requirements of C5. There are a number of points to make in this context.

First, the figures supplied by Mr Pick for expenditure by the applicants in the last ten years are large: nearly £25 million within a 25 mile radius, of which around £5.25 million was spent with small family businesses. Quite obviously the bulk of the spend is with Cargill UK of Hereford on food-stuffs etc for the existing poultry unit at Heath Farm. The production of chicken meat in this country is and always has been a high-turnover, low margin business, the holy grail of which is to convert feed to chicken meat as cheaply and efficiently as possible. Given that the great bulk of the feed is imported soya from South America and elsewhere, most would regard this source as a poor contributor to the sustainability argument. Any arguments about locally produced food and food miles, in so far as they form part of the applicants' case, are a non-starter.

The £5.25 million spent locally would undoubtedly represent in the main the capital outlay on new and extended chicken sheds at Heath Farm and the bio-digester and its various re-incarnations. If this application did not proceed, whilst it is true that some local contractors would not benefit from the associated construction work, the loss is rendered nugatory by the fact that from our conversations with them on other matters they appear to have full order books already and have the prospect of tendering for many more chicken sheds in the pipeline both in the immediate area – Shropshire, Herefordshire and Powys – and nationally. The prime beneficiaries among the local spend are in the main national operators.

The second point to make is that this cannot be said to be a diversification. Diversification, put simply, is the addition by an enterprise of a second business different from its prime business activity. The applicants already have a substantial poultry rearing business, which is presumably profitable. That they should wish to add further units at a different location is not a diversification, but an extension of the existing business and, moreover and paradoxically because of the applicants' expressed desire to reduce risk, a considerable intensification of risk in exposure to the chicken meat section of the commodity market.

The third point is that according to information supplied in connection with the fore-runner of this application the applicants run a 700 acre arable farm, including a bio-digester and an existing poultry business of some substance. It beggars belief that a holding of this size is in need of a further four poultry units to make it sustainable. It is correct to say that profits may

well increase by the addition of the four units, but it is not at all correct to state that the increase is necessary for sustainability.

The fourth point is that, dress it up how one may, the applicants' business venture is something of a joint venture. Had this application been submitted by the UK arm of the largest private company in the United States with a turnover of £83 billion and annual profits of £2.13 billion (2016-17 figures), it would be difficult to see how the proposal could impact upon sustainability. Yet it is Cargill UK of Hereford, the UK subsidiary of a world-wide food processor and commodity trader, that on the applicants' own admission provides the wherewithal for this business activity in terms of hatched birds, feed and end market. It is to be observed that at about the time this proposal first germinated (2013), Cargill UK had announced an expansion of its business at Hereford and a requirement for more birds for slaughter. It should be noted that in the event of the closure of the Hereford slaughter plant, the applicant will have no outlet to which its birds could be transported economically.

The fifth point is that as regards national food production issues the impact of the proposed development will be de minimis when considered with the large numbers of consents granted for similar units elsewhere, both locally and in England and Wales generally, since this development was first mooted. Neither the grant nor the refusal of this application will have any material impact either way.

The sixth point is that the applicants do not appear, as is alleged to be the case, to be a key local employer, as stated in the application. No figures are given in the application, but the residents of Hopton Heath have not been able to identify any local employees outside the family unit.

My purpose in making these points is that the proposed development cannot be shown to *improve the sustainability of rural communities by bringing local economic and community benefits*. It may well bring benefits to the business of the applicants and its partner, but otherwise it appears to bring no local economic or community benefit.

Notwithstanding the above points, strong as they are, there is another, more fundamental issue on the sustainability of the proposed development. This is that any permitted development should not have the effect of making pre-existing local businesses less sustainable. This is not stated expressly in C5 but is implicit within it. We refer, of course, to the likely impact of the proposed development on tourism.

The site for the proposed development is surrounded by tourist accommodation, both cottages to let and bed and breakfast accommodation. Ashlea Pools Country Park is one of the closest properties to the proposed development site, and it has a number of holiday cottages to let as well as owner occupied units. It is a major player in the tourist market in South Shropshire, marketing itself both direct to the public and through Hoseasons. In all it is believed that there are at least 30 holiday units around all sides of the site except for the Beckjay side. Broadward Hall has a function suite. There are a number of cottages available for general non-holiday letting as well.

It goes without saying that local tourism has a far bigger impact on the community than the poultry business is ever likely to have in terms of employment. Most of the owners of the accommodation derive direct employment from their efforts, and some need cleaners and ground staff etc. Tourism drives spending and employment in local centres such as Ludlow and Craven Arms. Without thriving tourism the local community and economy would be so much the poorer

It is considered that the environmental downside to the proposed development, whether real or imagined, is likely to have a detrimental effect on tourism. The point was very cogently made by several people attending a public meeting on 7 August 2014 in connection with the fore-runner of this application. Permanent residents have objections to periodic smells and noise pollution emitting from the current poultry unit at Heath Farm, and it is inevitable that these problems are going to be exacerbated by having four large units so very much closer to the accommodation. Nevertheless, permanent residents generally put up with the occasional nuisance, simply because they have no choice. Those booking accommodation do have a choice, and they are likely to exercise it. The very presence of a poultry unit so close to accommodation is always going to be heavily influential in whether tourists book accommodation. Adverse sentiment is always likely to be magnified by the effects of the internet and the likes of TripAdvisor.co.uk. This produces an adverse effect on the sustainability of these businesses and local employment, an adverse effect that the proprietors of these businesses cannot have foreseen when setting up and investing in their businesses, some of them heavily.

If evidence of the likely impact of the proposals on tourism is needed, we only have to look at the myriad of objections made to this application by those involved in the local tourism industry. They are, not surprisingly, fearful for their future earnings.

From the foregoing it will be apparent that on a balance of probabilities the grant of permission is likely to diminish the overall sustainability of the community.

### **C. The environment**

The following environmental aspects cause concern, and we will deal with each of them in turn:

- (a) Odour pollution
- (b) Noise pollution
- (c) Dust
- (d) Light pollution
- (e) Drainage and the impact on the natural environment

#### **(a) Odour pollution**

The Odour Report dated 16 April 2014 from AS Modelling & Data is fundamentally flawed.

Residents at Hopton Heath complain about odours emitting from the present poultry operation at Heath Farm, and we understand that complaints have been made from time to time to regulatory authorities. We have no information as to the outcome, and the complaints may well have been from residents outside our parish boundary. The evidence of this is quite clear from the individual objections submitted to Shropshire Council on this particular application. It is quite clear there is an existing intermittent nuisance.

The Odour Report suffers from the fundamental defect that it does not take into account the cumulative effect of the odour from the existing site, but merely concentrates on the odour from the proposed development.

Given the mature nature of the existing operation at Heath Farm, it should surely have been a simple matter to produce hard measurements and statistics on odour at the various receptor points. The opportunity has not been taken, although this application has been long in germination, and one has to question why.

As things stand, it seems reasonable to assume that the cumulative odour from the two sites is likely to be such that at a number of houses measured as receptor points in Table 3b of the

Odour Report the Environment Agency's benchmark for acceptability of 3.0 ouE/m<sup>3</sup> (based on the 98<sup>th</sup> percentile hourly mean measurement) is likely to be exceeded.

We must be sure that we understand what Table 3b of the Odour Report shows. It is admitting that nearly all properties in Hopton Heath, Broadward and Beckjay will suffer a level of odour above the benchmark limit for at least some days a year, even before the cumulative effect of the existing Heath Farm operation is taken into account: see last paragraph on p16. Residents are a captive market for odour: tourists are not.

A model such as that relied on in the Odour Report is a model. It may be right: it may be wrong. The problem is that if it is wrong, any positive decision based upon it will most likely wreak irreparable damage to those affected. We do know that those living further afield from the existing operation at Heath Farm than they do from the development site already experience odour nuisance, and quite plainly this is going to be exacerbated by the proposed new development, particularly bearing in mind that clearing out on the two sites will not be undertaken as one cycle but as two different ones. At the very least the nuisance is going to double in terms of days experienced. Shropshire Council itself has drawn attention to the possible exacerbation of the impact of odour by atmospheric inversion within a valley such as this part of the Clun Valley.

The Parish Council submission is that it has not been demonstrated that there will be no significant impact from the odour of the proposed development. As will be seen later, the Planning Inspector agreed with the view that there would be strong odours at clearing out times, but she seriously misunderstood the evidence as to its extent and failed to aggregate the effect with Heath Farm.

## **(b) Noise pollution**

Noise has been an issue throughout this sorry saga. The noise report submitted with the forerunner of this application was deeply flawed, but nevertheless accepted without question by the planning executive of Shropshire Council and the Environment Agency in issuing its environmental permit for the proposed development. In response to criticisms from this Parish Council corrective attempts were made. The Inspector pointed out that the report had been prepared according to an outdated British Standard, and when a fresh report was prepared on this revised basis, it not surprisingly showed a very significant noise impact on a number of properties.

Having made some attempts to attenuate noise in this application, the applicants now produce in evidence a report by Matrix Acoustic Design Consultants dated 11 September 2017, which purports to show that there is no significant noise impact from this development. This seems to be regarded as robust by environmental officers at Shropshire Council, and it is presumably only because of this that the application has been allowed to proceed, as otherwise there is nothing to distinguish it from its failed forerunner.

This Parish Council has commissioned its own noise report to review the Matrix report. Noise.co.uk Limited were instructed to undertake the review, which was carried out by Matt Torjussen, who is about to become a member of the British Standards Board. The report is dated 7 November 2017 and is included in Appendix B. The review has identified flaws and omissions in methodology used in the Matrix report, which render the Matrix conclusions invalid. Very broadly, the Matrix report

- (i) did not include noise from lorries on the external access road
- (ii) did not account for the fact that a number of the noise sources would be impacting at the same time rather than as individual noise sources. This is only common sense

There were other differences of approach, as set out in the two reports, but the main conclusion from Noise.co.uk report is that there are likely to be very significant noise issues at night over a wide area, when the poultry houses would be depopulated. The whole of Hopton Heath would be affected. There is also widespread noise, some of it significant, when the bulk feed blower lorries unload during the day. These conclusions take into account the noise attenuation measures included by the applicants in this application.

The result of the Noise.co.uk review is that, in their words, the assessment has changed and has become adverse.

Given the significant adverse impact of the proposed development over a wide area of Hopton Heath, particularly at the nightly depopulation, it is in the submission of this Parish Council that this application cannot succeed.

Having said that, the bare reports of both Matrix and Noise.co.uk, focusing as they do on the application of the relevant British Standard in the context of the development proposal, do not take into account two other important noise factors.

The first is that no attempt is made to take into account road noise on public highways. This apparently does not fall for assessment within the relevant British Standard. However, this is scant comfort to the residents of Broadward Hall Cottage and Broadward Lodge as fully laden articulated lorries move slowly up to speed outside their houses in the middle of the night. As will be demonstrated below, the traffic movements from this proposed site have been misrepresented. Indeed, the Matrix noise report proceeded upon the basis of seriously understated transport figures culled directly from the Transport Report.

The second factor is that the residents of Hopton Heath already suffer from the noise of feed blowers delivering to Heath Farm without any attenuation. The noise can be heard regularly as far away as Beckjay. This source has to be viewed as an aggregation to that from the new development. Plainly, the new development, if allowed to proceed, would result in a doubling of the impact.

The failings within the Matrix report and its predecessors, which appear to have formed the basis for the environmental permit issued by the Environment Agency, do give rise to issues as to the continuing validity of that document. Councillors should, of course, be aware in this context (and the same remarks apply to all environmental matters, we should add) that the mere fact that the Environment Agency has issued a permit does not mean that they can absolve all responsibility for environmental matters, a fallacy often stated by the Shropshire Council planning executive in relation to the forerunner of this application. For it is clearly stated in para 122 of the National Planning Policy Framework that “local planning authorities should focus on whether the development itself is an acceptable use of the land, and the impact of the use”. The mere fact that there may be a policing machinery in the form of the Environment Agency is not a reason to pass a proposal that should otherwise clearly not be passed on environmental grounds.

#### **(c) Dust**

There is nothing in this application to deal with the effect of dust from the fans either on surrounding residences or on the watercourse adjacent to the proposed development site.

#### **(d) Light pollution**

Whilst it is accepted that light from the poultry units themselves is unlikely to be a source of pollution if the projected automatic shutters are used, there is concern that lighting of the greater compound will cause light pollution. At present there is no lighting at all in the centre

of this block of agricultural land. Any light will, therefore, be seen by residents as an intrusion and visible from a number of properties on the periphery of the block.

If the development were to use white light only and down-lighters, this would be less intrusive.

It is accepted that *per se* light pollution could be dealt with adequately by condition, but taken in conjunction with other forms of pollution and taking into account the character of the area, any light pollution is unacceptable without cogent reasons to justify it.

#### **(e) Drainage and impact on the natural environment**

It is well known in South Shropshire planning circles that considerable efforts are being made to preserve the freshwater pearl mussel beds close to the site of the proposed development. The water course running at the south side of the site leads directly to the River Clun at a point upstream from the mussel beds. The Ashlea Pools are drained by this watercourse, which takes also much run off water from fields. It is not “a dry ditch”, as originally represented to the Parish Council by the applicants and their former agent at their meeting with the Parish Council.

Evidence from a former owner of the site (Mr Geoffrey Rollason) informs us that the site, at precisely the end of the field where the development is proposed, used to be called “The Bog” because of its propensity to retain water. This is confirmed by one of our recently retired Parish Councillors (Mr Bert Bason MBE), the former farm manager of the Rocke Estate and also previous owners of the field, whose knowledge of the site goes back 80 years. The owners of the adjacent field to the north of the site inform us that the eastern end of their field is very wet.

The site is believed to have benefited from drainage works over a century or more ago. Several large land drains (9 inch pipes) discharge into the River Clun close to this site, and it is thought that one or more of them serve this site and land beyond.

There is concern that the considerable earthworks involved in the proposal will disturb the natural drainage, poor as it is, for surrounding land, but the greater concern is that the application takes little account at all of the mussel beds and the SAC and the potential impact of the development upon them. On page 63 of the Environmental Statement it is agreed that “*there is the potential for indirect impacts to occur*”. What is proposed is by no means a fool

proof method of protecting the SAC against possible escapes or emissions from the development site.

There does not appear to be within the proposal any provision for staff toilets and washing facilities. We understand that for purposes of farm assurance approval there must be provision for toilets and hand washing facilities on site (*Red Tractor Poultry Standards – Broilers and Poussin – Condition AM.9.3*). A similar requirement would exist for reasons of staff welfare. We know from the drawings that dirty water from the units themselves is to be deposited into a 6,000 litre tank (referred to as 5,000 litre on the plan) and thence removed from the site, but there is no mention made of foul drainage. We can only assume that facilities such as these have not been mentioned to preclude possible objections from Natural England, who appear to have been objecting even to the extension of even very modest residential toilet facilities throughout the whole of the Clun Valley.

There is no mention of provision of foot dips at the farm entrance and entrances to the poultry houses (*loc cit, Condition AM.9.2*) and the method of disposal of contaminated waste. Farm and other vehicles entering and leaving the site should be cleansed and disinfected (*loc cit, Condition AM.9.6*). No mention is made of provision for this, nor of how the waste washings would be directed to the dirty water tank rather than be allowed to escape through the soakaways.

The proposals for ground and surface water drainage are for drainage to soakaways in what is an already wet field. In the Flood Risk and Drainage Assessment of June 2014 it is stated that “*The proposed surface water drainage soakaways have been designed for a 1 in 10 year event + 20% climate change. Any exceedence (sic) flows and the 1 in 100 year storm event run-off will be directed towards the adjacent ditchcourse running along the southern site boundary.*”

The problem with this design is that within the last seven years in the village we have had two 1 in 50 year rainfall events. With the ever present threat of climate change it seems inevitable that the ditch at the south of the site will be called upon to discharge from the site from time to time. The flow of the water course into the River Clun leaves the SAC exposed to a potentially cataclysmic event through pollution from this site. It seems to the Parish Council to be an unacceptable risk.

The same remarks apply to any drainage from this site that might occur through historic drainage systems. The applicants have in effect no control over these conduits as they are not in their ownership when they leave the eastern boundaries of the site.

The application does not appear to deal at all with the Clun Catchment Nutrient Management Plan propounded by The Environment Agency and Natural England, which is currently in consultation. This plan is designed to bring about the necessary improvements in the quality of water in the River Clun to enable the mussel bed to thrive.

#### **D. Highways aspects**

The concern of the Parish Council is that the access is at a long, straight section of the B4385 road where vehicles have been known to gather speed: it is, however, a long straight section with a dip. There seems to be scope for accidents as slow moving vehicles, whether they are articulated lorries or tractors and trailers, emerge into the road. The greatest danger is likely to arise from traffic travelling from Hopton Heath toward Bucknell, where speeding traffic may not be able to see emerging traffic until it is too late. This is a significant risk, particularly when understood in the context of a material understatement of transport movements.

Traffic movements appear to be grossly underestimated. There is attached as Appendix C the Parish Council's full research on traffic movements under the heading "Transport". Movements are likely to be four or five times greater than disclosed. Much of the traffic will be noisy, slow moving tractors.

Bedstone Growers assess feed deliveries at 22 HGV movements or a maximum possible 319 tonnes feed per cycle. A movement is a load in, and another movement would be the same lorry coming out. In other words, a normal delivery lorry would constitute two movements. Given the generally accepted conversion rates of food to finished weight in chickens, this Parish Council assesses that a minimum of 68 movements or 989 tonnes per cycle is more likely.

Bedstone Growers assess poultry removal at 34 HGV movements per cycle. The Parish Council assessment is that minimum movements will amount to 70 but may rise to as many as 116.

Bedstone Growers assess poultry manure removal at 20 tractor movements per cycle. Tractors and trailers can only take around 15 ton loads/ The Parish Council assessment that

manure related tractor and agricultural movements would be at over 80 per cycle. These would double again if the manure is taken first to Heath Farm to the Anaerobic Digester (or for storage) and thence taken out of the Clun Valley, as is proposed.

Bedstone Growers assess fuel deliveries at 2 HGV movements per cycle. The Parish Council assesses these movements at a minimum 4 movements per cycle for HGVs and 10 plus if tractors are used.

Bedstone Growers assess employee movements at nil per cycle. We assess employee movements at 392.

The point is that these material understatements all contribute to a marked and noticeable diminution in the peace and quiet of the neighbourhood. When taken in conjunction with the activities at Heath Farm, the aggregate effect is considerable.

The Matrix noise report was founded on these incorrect traffic movement figures, be it noted.

## **E. Other material considerations**

### **(a) Intensification of operations at Heath Farm**

The applicants have increased output of the Anaerobic Digester (“AD”) plant at Heath Farm from its original planning permission published capacity of 250KW to a current published capacity of 550KW. No planning permission has been obtained for this increase in output. To achieve the current published output the applicants will have needed feedstock supply to the AD plant far beyond that envisaged in original planning permission.

The amount of energy reported to Ofgem as being produced by the AD plant has increased from a peak of 221 MWh per month in 2013 to a peak of 979MWh in July 2016. The latter figure suggests that the AD plant has a real potential output of 1315KW. The generous Feed in Tariffs of between £109.40 and £151.80 per MWh plus the value of any electricity generated from the AD plant give the operators a considerable incentive to increase output.

The applicants appear to be operating an industrial woodchip drying facility at Heath Farm without planning permission.

The applicants have expanded Heath Farm broiler production from 108,000 birds per cycle (pre 2001), 162,000 (2001), 216,000 (2009), and 295,000 (2014) through incremental planning

permissions. Full noise and highways assessments were not carried out when incremental planning permissions were given. Natural England we know was not consulted or some or more of these increases, as it should have been. The noise and highways assessments for the current application ignore current traffic movements and noise generated by Heath Farm.

The significance of this intensification is that for planning purposes it is scarcely correct to term Heath Farm a farm any more. Perhaps Heath Power Station may be more correct. Plainly a change of use of the farm has surreptitiously occurred, and it is questionable whether it has occurred in conformity with planning law.

All of the product of the farm is directed to the AD. The operation of the AD is no longer subsidiary to the workings of the farm, as envisaged by its original planning permission: its workings have now consumed the farm.

All in all, happenings at Heath Farm are highly relevant when the sustainability of the proposed new development is assessed. Although the applicants agree to remove from the Clun Valley manure emanating from the proposed development, they do not thereby debar themselves from placing it in the AD first and removing it as digestate later.

The Parish Council's full concerns about the operation of the AD are set out also in Appendix D under the heading "Anaerobic Digester Concerns".

#### **(b) Proliferation of poultry units and damage to the environment**

In the last 5 years there have been at least 21 successful applications for the erection of broiler sheds in Shropshire. There are certainly more – the search of the Shropshire planning portal was time limited and no search has been made in Herefordshire and Powys where casual observation would suggest many more units have been built. These particular applications have resulted in an additional 3,852,296 poultry places which produce an extra 26.97 million birds a year from these units alone. In American terms of mega-farms (in excess of 150,000 broiler places per cycle), we already have both Heath Farm and Wetmore Farm in close proximity. The proposed development would itself be a mega-farm, and so to have three so close together, two of them very close together, it itself a proposition that needs the most careful scrutiny.

Unfortunately, this extra production is resulting in a potential environmental time bomb for Shropshire Council.

1) Much of Shropshire is not in a nitrate vulnerable zone, but may well be soon as the zones are being extended. If the manure from the poultry units in these 21 successful applications is applied to land at the NVZ rate of 170kg /ha then 8,804 ha would be needed i.e. 88.04 sq km or 33.99sq miles of suitable land.

2) Manure spreading is not permitted for several months per year and may not be possible at other times due to the weather – which results in stockpiles of manure, leading to leaching of nutrients and potential contamination.

3) Poultry manure has twice as much nitrogen (kg/t) as cattle farmyard manure (corrected to a similar dry matter percentage) and three times the level of phosphate. Even if the nitrogen spreading limits are adhered to, the resulting phosphate is likely to be in excess of what is required by the land and can cause eutrophication in water courses. Excess phosphate in rivers leads to increase in plant growth altering the species composition and balance. A multiplication of algae turns the surface green and decreases the light reaching the stems and leaves of higher plants. Oxygen is used up leading to a toxic underwater environment. Natural England is very concerned about phosphate levels in watercourses feeding into the SAC both from farming and domestic sources. The danger is that poultry manure will be spread on the same land year after year as the number of poultry units increase and spreading land becomes in short supply. This will unbalance the phosphate levels in the soil and increase the risk of run off into vulnerable water courses.

4) Both the applicant and others in earlier applications have stated that the poultry manure will be removed from the holding and spread elsewhere – in the applicant’s case – out of the sensitive Clun Valley catchment area. **The question is – where is this manure/digestate going? No indication is given in the documentation. Who is going to police and enforce this and how?** Certainly not the short-staffed Environment Agency which merely deals with issuing the Environmental Permits for the poultry plant itself and is only “reactive” when there is a spill or leak. **Planning conditions relating to the manure which have no clear method of monitoring and enforcement by the imposing authority are as good as useless.**

Poultry sheds cannot increase exponentially – at some stage there has to be a limit. For the protection of the valuable tourist industry and the health of the county’s watercourses, urgent action is needed. A policy needs to be formulated.

### (c) The section 106 Agreement

6. The First Owner covenants that no Poultry Litter produced in the New Sheds will be retained within the Clun SAC Catchment and full records will be kept of the amount of Poultry Litter produced and details of the purchasers of the said Poultry Litter and the dates quantities and locations to which it is transferred will be retained and provided to the Council within 28 days of a demand for the same from the Council.

In order to secure Natural England for the forerunner of this application the applicants undertook to **remove** the manure from the new poultry units from the Clun Valley. However, it is plainly obvious from the context of negotiations that the mischief Natural England sought to guard against was the **spreading** of the manure within the Clun Valley. Paragraph 6 of the Second Schedule to the section 106 agreement of the 11 April 2016 (reproduced above, but which is in any event now redundant as it refers to the forerunner of this application) is designed to secure this purpose. However, it should be plainly apparent that the covenant achieves no such objective. Where the manure is transferred to is quite irrelevant. The condition should obviously relate to where the manure is ultimately spread, not where it is transferred to. The manure may change hands a number of times, and a record of its initial transfer out of the Clun Valley means little.

The difficulty of introducing sufficiently tight wording shows up the difficulty of enforcing conditions. In turn, it casts doubt upon the workability of the whole scheme. Certainly, on the wording as it stands, if replicated in a new section 106 agreement, it would be doubtful that there would be in force a valid consent from Natural England, as there would be non-compliance with its conditions. Planning conditions must be understandable, workable and capable of enforcement: if they are not, there should be no consent. Let us pass over the fact that neither Shropshire Council nor the Environment Agency have the man-power to enforce whatever conditions they may seek to impose!

Nowhere in the application papers is it specifically stated that the manure and litter will not first be taken to the AD at Heath Farm or at least for storage there. Inevitably, the journey leads to more noise and traffic movement.

### (d) The Inspector's Decision

The Inspector's Decision dated 25 May 2017 in relation to the fore-runner of this application is itself a material planning consideration, of which some account must be taken.

This is a new application, and, as stated at the outset of this objection, Councillors are not bound by findings of fact previously made by other Councillors or even by previous Planning Inspectors. Councillors now have to make up their own minds on **all the evidence** now before them. It is a principle worth remembering throughout.

The case for the applicants' appears to centre on one issue: noise. Such is their focus in re-submitting the application with some minor noise attenuation proposals. They assume that because the Inspector in the fore-runner of this application centred her decision particularly on noise with an apparent satisfaction with other aspects, then noise is all that has to be dealt with.

This approach is wrong for two reasons. First, this is a fresh application and everything has to be looked at afresh on the evidence now before Councillors. Secondly, the applicants' in trying to tackle the noise problem are to a large extent missing the point about what the Inspector meant in her decision.

The Inspector found that it was "clear from the submitted evidence that the peace and tranquility of the area is a valued and important characteristic which is important to the character of the area": para 21.

The Inspector referred to the noise from feed deliveries and operations at night , and the noise report before her, as with the Noise.co.uk report, found there to be a great deal of disturbance. But clearly she was influenced (para. 25) by vehicle movements at night, which were not measured then and have not even been measured now. We know that these movements are common to both applications, and we further know that vehicle movement figures relied upon by Matrix seriously understate the true position. The tenor of her decision was that this is a quiet and peaceful area and any activity is likely to disturb it. It is not just a matter of looking at a noise report and seeing whether any noise source wanders off into the red zone – all noisy activities when taken together must not be encouraged.

The Inspector claimed to have no evidence before her of the aggregate effect of noise activities at the development site and Heath Farm. A number of members of the public have referred to existing noise in their objections this time, even if they did not before, and so that evidential lacuna has been closed. There is evidence of existing noise, particularly from feed deliveries, travelling as far as Beckjay. It is difficult to see how an arbiter on the evidence now available could avoid making the aggregation.

As to odour, the Inspector in the view of Parish Council seriously misunderstood the evidence before her. Whilst admitting that the smell during clearing out periods might well be “offensive”, she appears to say that because it only happens 8 times a year, it would not be so significant as to prevent the development (para 36). It is not clear whether the Inspector was thinking of 8 days only, but it would surely take more than a day per cycle to clear away the accumulated litter. Two or three days would be the minimum, and let us not again forget the aggregate effect of the clearing out at Heath farm, which operates on a different cycle. All in all residents of Hopton Heath and Beckjay could easily suffer the offensive odour for over 30 days a year. The objections lodged this time by members of the public bear witness to the odour very clearly, and in the view of the Parish Council on any footing this is a significant impairment of living standards which no scheme could reasonably impose. It is in the context of odour that local tourism operators have their greatest fears. It is the one sense that makes great impact on visitors. The objections submitted in connection with this application are quite clear, and, taking into account the fears of those operators, we as a Parish Council say that Inspector had no evidence from which she could reasonably conclude that tourism would not be harmed. The smell of poultry manure, whilst described by some as “offensive” is to many horribly acrid and nauseous. Why on earth would you wish to spend a holiday in such an atmosphere? Tourists have a choice, regrettably the permanent residents of Hopton Heath do not.

With regard to the siting of the development, the Inspector did not have before her evidence of the impact of the site on long distance views. This oversight, if oversight it was, is remedied with this application, but even before her the Inspector had evidence of the visual impact of the scheme not only on the nearby footpath but also from the windows of houses in Hopton Heath and the Lynches.

The Inspector did not evaluate, as the Parish Council thinks she should have done, alternative possible sites at Heath Farm. This is an evaluation that is inherent in policy CS5.

The Inspector was not convinced of the impact of a catastrophic polluting event at the proposed facility on the freshwater pearl mussels. She said there was no evidence to support this. Really, does it need evidence? There is unlikely to be such a polluting risk, it is to be hoped, but there is the possibility that it may occur, and why take the risk when there is no pressing need to do so. We are dealing with a species near unique in the UK. The Inspector’s dismissal of this ground of objection is a poor response to the many house-owners and farmers who have spent much time and money doing their best to clean up the River Clun. If the Inspector is right, then all those efforts are put at risk by this development. The Parish Council says that she is not right.

Proposed Poultry Units South East  
of Hopton Heath Shropshire

Planning Application  
Reference 17/04546/EIA

Objection of Clungunford Parish  
Council

Appendix A



Photograph 1



Photograph 2



Photograph 3



Photograph 4



Photograph 5

*Key to photographs*

- 1. Photograph taken from point SO 38142 77332 (B4385)*
- 2. Photograph taken from point SO 38142 773329 (B4385)*
- 3. Photograph taken from point SO 39635 77001 (The Lynches, Broome Road)*
- 4. Photograph taken from point SO 41024 76289 (The Herefordshire Trail at Stormer Hall)*
- 5. Photograph taken form point SO 40958 76212 (The Herefordshire Trail at Stormer Hall)*

Proposed Poultry Units South East  
of Hopton Heath Shropshire

Planning Application  
Reference 17/04546/EIA

Objection of Clungunford Parish  
Council

Appendix B

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The Haybarn

Newnham Grounds

Kings Newnham Lane

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# Report Review

Prepared: 7<sup>th</sup> November 2017

<b>Report No</b>	18372-1
<b>Applicant</b>	The Trustees of Clungunford Parish Council
<b>Site</b>	Proposed Broiler Units, Heath Farm Hopton Heath, Craven Arms Shropshire

noise.co.uk

## **1. Executive summary**

- 1.1.1. noise.co.uk Ltd has been commissioned by The Trustees of Clungunford Parish Council to comment on the noise impact assessment prepared by Matrix Acoustic Design Consultants for the proposed broiler units at Heath Farm, Hopton Heath, Craven Arms, Shropshire.
- 1.1.2. The review has included:
- consideration of the source information;
  - comment on the background sound levels used in the assessment;
  - a comparison of the predicted specific sound levels with our own modelling; and
  - testing the robustness of the noise impact assessment.
- 1.1.3. It has been demonstrated that, in some areas, the rating level of the proposed new specific sound sources may have been underestimated.

## **1.2. Summary**

- 1.2.1. The assessment prepared by Matrix Acoustics Design Consultants is relatively robust and was able to cope with the treatment of the sources as cumulative; however, the assessment outcome is changed by:
- (a) the inclusion of HGVs on the access road; and,
  - (b) the noise barrier being less effective than predicted at protecting receiver E from noise from the feed-silo delivery.

## 2. Limitations

- 2.1.1. noise.co.uk Ltd ('Noise') has prepared this report for the sole use of The Trustees of Clungunford Parish Council ('Applicant') in accordance with the Agreement under which our services were performed, proposal reference number 18372. No other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by Noise. This report is confidential and may not be disclosed by the applicant nor relied upon by any other party without the prior and express written agreement of noise.co.uk Ltd.
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- 2.1.3. The methodology adopted and the sources of information used by Noise in providing its services are outlined in this report. The work described in this report was undertaken on 7<sup>th</sup> November 2017 and is based on the conditions encountered and the information available up to this date. The scope of this report and the services are accordingly factually limited by these circumstances.
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## 4. Background

### 4.1. National Planning Policy Framework

4.1.1. The National Planning Policy Framework (NPPF) was published in March 2012 and sets out the Government's planning policies for England and how these are expected to be applied. The framework states that the planning system should contribute to and enhance the natural and local environment by:

*“preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability”.*

4.1.2. The express inclusion of noise in the NPPF means that it is a material planning consideration for local planning decisions. It replaces the now revoked Planning Policy Guidance (PPG) Note 24. Paragraph 123 of the NPPF document states that planning policies and decisions should aim to:

- A. Avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;
- B. Mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions;
- C. Recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established; and
- D. Identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

### 4.2. Noise Policy Statement for England

4.2.1. The Noise Policy Statement for England (NPSE), published in March 2010, states the long-term vision of Government noise policy is to *“promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development”.*

4.2.2. This long-term vision is supported by the following aims; through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- Avoid significant adverse impacts on health and quality of life;
- Mitigate and minimise adverse impacts on health and quality of life;
- Where possible, contribute to the improvement of health and quality of life.

4.2.3. The intention is that the NPSE should apply to all types of noise apart from noise in the workplace (occupational noise).

### 4.3. National Planning Practice Guidance

- 4.3.1. The National Planning Practice Guidance (PPG) is a web-based resource, launched by the Department for Communities and Local Government (DCLG) in March 2014 to support the NPPF and make it more accessible.<sup>1</sup>
- 4.3.2. It advises on how planning can manage potential noise impacts in new development. The guidance is regularly reviewed and updated and noise is listed as a specific category.
- 4.3.3. A summary of the effects of noise exposure (in terms of health and quality of life) associated with both noise generating developments and noise sensitive developments is presented within the PPG and reproduced in Table 1.

Perception	Examples of outcomes	Effect level	Action
Not noticeable	No effect	No observed effect	No specific measures required
Noticeable and not intrusive	Noise can be heard, but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No Observed Adverse Effect (NOAEL)	No specific measures required
<b>Lowest Observed Adverse Effect Level (LOAEL)</b>			
Noticeable and intrusive	Noise can be heard and causes small changes in behaviour and/or attitude, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
<b>Significant Observed Adverse Effect Level (SOAEL)</b>			
Noticeable and disruptive	The noise causes a material change in behaviour and/or attitude, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Noticeable and very intrusive	Extensive and regular changes in behaviour and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect	Prevent

Table 1 – Noise exposure hierarchy

<sup>1</sup> <http://planningguidance.communities.gov.uk/>

## 5. Introduction

5.1.1. This report has been commissioned by The Trustees of Clungunford Parish Council to comment on a noise impact assessment for proposed new broiler units at Heath Farm, Hopton Heath, Craven Arms, Shropshire, the "Proposed Development". The noise impact assessment, reference M1730/R01a, was prepared on 11<sup>th</sup> September 2017 by Matrix Acoustic Design Consultants, hereafter referred to as the "Matrix report".

### 5.2. Matrix report

5.2.1. The Matrix report assesses the noise impact of the proposed new broiler units on five key residential receivers using BS4142:2014.<sup>2</sup> The layout of the proposed development and the location of the nearest residential receivers are illustrated in Figure 1, which has been taken from the Matrix report.

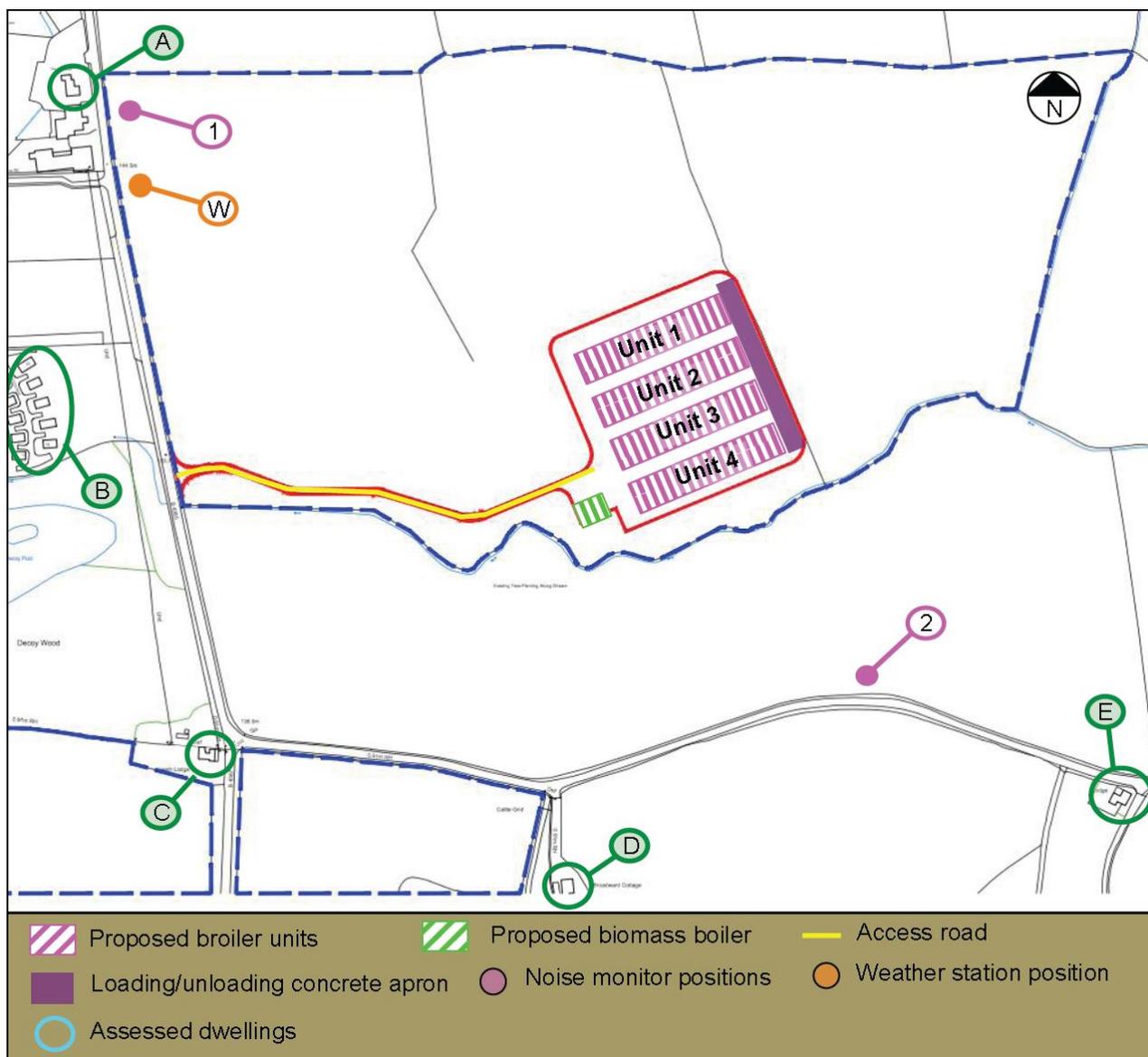


Figure 1 - Plan showing the location and layout of the Proposed Development and the nomenclature used in the Matrix report

<sup>2</sup> BS4142:2014 "Method for rating and assessing industrial and commercial sound"

### 5.3. Sources

5.3.1. The source types, levels and usage from the Matrix report have been summarised in Table 2.

Source	Activities	Sound levels	Usage/on-time	Character corrections	Modelling notes (see section 8)
<b>Extract fans</b>	12 extract fans per shed, with flue terminations 5.6m from ground along roof ridge	$L_p = 70\text{dB(A)}$ @2m with spectral data	Day (07:00-20:00) = 100% Evening (20:00-23:00) = 50% Night (23:00-07:00) = 20%	+3dB for 'other'	Attenuators taken into account for units 3 and 4. Directivity accounted for by treating terminations as area sources.
<b>Biomass boiler</b>	Biomass boilers enclosed in shed with four flues 9.0m above local ground level.	Internal $L_p = 80\text{dB(A)}$ , Flue $L_p = 70\text{dB(A)}$ at 1m	Operating 100% of the time.	No corrections	Noise breakout modelled as area sources. Flue noise modelled as point source.
<b>Loading HGVs</b>	Electric fork lift unloading HGV.	Forklift truck $L_p = 63\text{dB(A)}$ @5m HGV $L_p = 85\text{dB(A)}$ @5m	45-minute deliveries Day (07:00-23:00) = 75% Night (23:00-07:00) = 100%	+3dB for HGV intermittency that may be perceptible +2dB for HGV manoeuvring tonality +3dB for forklift intermittency that may be perceptible +6dB for clearly perceptible impulsivity of unloading.	Modelled as area sources 1m from the ground on concrete apron. The sound power has been distributed evenly throughout the area.
<b>Feed silo filling</b>	HGV loading silos with feed using a pump in two separate locations.	$L_p = 85\text{dB(A)}$ @4m	30-minute duration and only during daytime Day (07:00-23:00) = 50%	No corrections	Modelled as point sources 1m above ground level. North silos and south silos in two different modelling situations
<b>Access road</b>	Vehicles accessing site for deliveries.	HGV $L_w = 100\text{dB}$ , this has been assumed to be A-weighted.	Based on the average speed of $16\text{km.h}^{-1}$ , HGV would take 2-minutes to traverse the site from entrance to exit.	Not deemed to be part of a BS4142 assessment and no character corrections made.	Modelled as a line source 1m from the ground with the total sound power level distributed equally throughout the line and normalised to 2-minutes in the hour.

Table 2 – Source information summary from the Matrix report

## 6. Assessment criteria

### 6.1. BS4142:2014

- 6.1.1. BS4142 provides methods for rating and assessing sound of an industrial and/or commercial nature, which includes sound from industrial and manufacturing processes, fixed services plant, sound generated by the loading/unloading of goods and sound from mobile plant/vehicles associated with industrial/commercial premises (e.g. fork-lift trucks).
- 6.1.2. The standard utilises various descriptors to assess complaints, the impact of sound associated with proposed industrial/commercial activities on existing noise-sensitive receivers, or the impact and likely suitability of siting new noise-sensitive receivers in the vicinity of existing industrial/commercial noise sources.
- 6.1.3. The standard is specifically precluded from being used to determine likely internal sound levels arising from external noise, or from the assessment of various sound sources for which other (more relevant) guidance exists, including music/entertainment noise, person noise and construction noise.
- 6.1.4. The magnitude of impact is assessed by subtracting the measured background sound level at a location representative of the nearest noise-sensitive receiver, from the 'rating level' (the specific sound source to be introduced into the locality, corrected for acoustically distinguishing characteristics which may make it more subjectively prominent).
- 6.1.5. Typically, the greater the difference between the background and rating level, the greater the magnitude of impact, although BS 4142 emphasises that this is highly context-specific.
- 6.1.6. As a guideline, BS4142 states that:
- A difference (between the background and rating level) of around +10 dB or more is likely to be indicative of significant adverse impact, depending on context
  - A difference (between the background and rating level) of around +5 dB or more is likely to be indicative of adverse impact, depending on context
  - The lower the rating level relative to the background level, the less likely it is that the specific sound will have an adverse impact
  - Where the rating level does not exceed the background level, this is an indication that the specific sound will have a low impact, depending on context

#### **Definitions**

- 6.1.7. BS 4142 uses several specific terms to define the various levels used in assessments, as follows in Table 3:

Terms	Definition
<b>Specific sound</b>	the commercial/industrial noise source under consideration
<b>Residual sound</b>	the sound level at the noise-sensitive receivers in the absence of the specific sound
<b>Ambient sound</b>	the sound level at the noise-sensitive receivers in the presence of the specific sound (i.e. ambient = residual + specific)
<b>Background level</b>	the sound pressure level which is exceeded by the residual sound for 90% of the measurement period
<b>Rating level</b>	the specific sound, corrected for acoustically distinguishing characteristics

Table 3 – Terminology used in BS4142

**Background sound level**

- 6.1.8. BS4142 emphasises that the background level ( $L_{A90,T}$ ) is in fact a range of levels, not one absolute value. Whilst stating that the measurements of background sound should be normally not less than 15 minutes, the focus is on obtaining a level for use in assessment that is representative of typical conditions at the noise-sensitive receivers.
- 6.1.9. An example methodology by which this typical value may be obtained is given in the document. In this example, monitoring of  $L_{A90,15mins}$  is undertaken during periods which represent when the specific noise will be operational. After obtaining a sequence of representative contiguous or disaggregated results, it is then proposed that the modal value is representative of the 'typical' background level.

**Specific sound**

- 6.1.10. BS 4142 requires that the specific sound ( $L_{Aeq,T,r}$ ) is obtained over a reference period of 1 hour (daytime) and 15 mins (at night). Ideally, measurements would be taken of the ambient sound and residual sound at the assessment location, with these measurements used to accurately calculate the specific sound (ambient – residual = specific).
- 6.1.11. Where the source (specific sound) is not yet operational, it is permissible to measure the specific sound elsewhere (or to use known manufacturers' or library data) and then model the impact of this against the known background level.

**Rating level**

- 6.1.12. Once the specific sound level has been determined, this must be corrected in terms of the need to consider the subjective prominence of the impact of the sound at noise-sensitive receivers, and the extent to which acoustically distinctive characteristics will attract attention.
- 6.1.13. BS4142 states that this is normally possible to carry out a subjective assessment of characteristics, based on the following correction guidelines:
- Tonality: +2dB for a 'just perceptible' tone, +4dB for 'clearly perceptible', and rising to +6dB for 'highly perceptible' tones.
  - Impulsivity (rapidity of change and overall change in level): +3 dB for 'just perceptible' impulsivity, +6dB for 'clearly perceptible', rising to +9 dB for 'highly perceptible' impulsivity.
  - Intermittency: if the on/off-time of the specific sound is readily distinctive at the noise-sensitive receivers, +3dB.
- 6.1.14. It should be noted that where one feature is clearly perceived as dominant, it may be applicable to correct for that feature only. Where multiple features are likely to affect perception and response, each should be added arithmetically.

## 7. Discussion

### 7.1. Source levels

7.1.1. It is possible to compare the sound pressure levels that have been used by Matrix to more established (but more general) references. The comparison has been illustrated in Table 4.

Source	Matrix data	SWL	Comparison source	SWL	Robustness
Extract fan	70dB(A) @2m	84dB(A) re 1pW	From manufacturer's data		High
Biomass boiler	Flue = 70dB(A) @1m Internal level = 80dB(A)	Flue = 78dB(A) re 1pW @1m Radiated ≈ 75dB(A) re 1pW	Highly dependent on boiler's power output; however, stated sound pressure levels are relatively high and would be likely to lead to a robust assessment.		
Forklift truck	63dB(A) @5m	85dB(A) re 1pW	Forklift <sup>3</sup>	90dB(A) re 1pW	Medium
HGV manoeuvring	72dB(A) @5m	94dB(A) re 1pW	Skip Wagon <sup>4</sup>	106dB(A) re 1pW	Low†
Silo filling	85dB(A) @4m	105dB(A) re 1pW	No similar data available		
HGV movement	100dB(A) re 1pW	100dB(A) re 1pW	Skip Wagon <sup>5</sup>	106dB(A) re 1pW	Low

† BS5228 measurements were reported as maximum pass-by sound pressure level. This is likely to be significantly higher than time averaged level used by Matrix.

Table 4 – Assessment of the source levels used in the Matrix report

7.1.2. The assumptions about the use of the equipment and the relative 'on-time' appear to be reasonable. Assumptions about the duty of the fans, delivery times and durations, location of activities and the treatment of the sources have been stated. It is expected that these assumptions have been made based on discussions with the future operator of the broiler units.

7.1.3. It is important to stress that the assessment is made over a 1-hour daytime and 15-minute night-time reference period. The number of delivery vehicles is based on the expected number in each of these reference periods. Over a 16-hour day (07:00-23:00) up to 16 individual deliveries could be made under the current assumptions.

7.1.4. The source levels used to determine the specific sound levels appear to be reasonable. We have no reason to believe they are not representative of the source levels that will be present on the Proposed Development. Furthermore, the transmission loss used for the biomass boiler shed (20dB  $R_w$ ) also appears to be representative for the type of insulated metal panel that would normally be used for such a building.

### 7.2. Character corrections

7.2.1. In this situation, the items of equipment are not yet installed; therefore it is not possible to make objective character corrections or make subjective corrections based on the sound at the receiver locations. The character corrections have been made by Matrix based on the author's experience from previous assessments.

<sup>3</sup> SoundPLAN library, Electric forklift, 1-2 tonne, average work(continuous)

<sup>4</sup> BS5228 Source C8.21, based on maximum pass-by sound pressure level

<sup>5</sup> BS5228 Source C8.21, based on maximum pass-by sound pressure level

### ***Tonality***

- 7.2.2. Tones are most commonly generated in environmental noise sources by one of two means; excitation of acoustic resonances or by rotating/reciprocating components. Acoustic resonances are caused by dynamic excitation of air cavities, which is commonly described as “whistling”. Tones are created in rotating and reciprocating components by imperfect rotating components (mass unbalance, brindled bearings etc.) or aeroacoustic interactions (blade pass related tones).
- 7.2.3. The extract fans and biomass boilers are very likely to produce tones; however, it is reasonable to expect that the sound from these sources will not be subjectively perceptible at the nearest residential receivers, particularly where the machinery is kept in good working order. This is a result of the very low sound pressure levels from these sources at receivers A-E.
- 7.2.4. In contrast to the lack of tonal character penalty applied to the extract fans and biomass boiler, they have been applied to the sound from deliveries. The disparity between these situations may well be justified but there is no objective evidence presented to support this conclusion.
- 7.2.5. No tonal character penalties have been applied for feed silo deliveries. We would expect a diesel powered pump at the predicted sound pressure levels to be perceived as tonal at the nearest residential receiver; particularly receiver E, which experiences sound pressure levels 6dB higher than the background sound level.

### ***Impulsivity***

- 7.2.6. Impulsivity describes the sudden onset of sound such as that from impacts and explosions. Matrix have identified the sound from unloading HGVs as likely to result in impulsive sound being ‘clearly perceptible’ at the nearest residential receivers. We believe this to be a fair/conservative assessment of the impulsive character of the sound but does indicate that the sound from deliveries is expected to be audible/detectible at receivers A-E.

### ***Intermittency***

- 7.2.7. Matrix have identified that the HGV movements and noise related to deliveries is likely to be perceptible as intermittent at the nearest residential receiver. We understand this to be a fair/conservative assessment of the character of the sound but does indicate that the sound from deliveries is expected to be audible/detectible at receivers A-E.

## **7.3. Background sound level**

- 7.3.1. The measurement data used to derive the typical background sound level was taken from the quieter of two positions. Whilst the method used to derive the ‘typical’ background sound level is not clear from the report (min, arithmetic mean, mode etc) background sound levels of 28dB  $L_{A90}$  and 21dB  $L_{A90}$  during the daytime and night-time respectively are considered to be very low. It is noted that the windspeeds were very low for the duration of the background sound level survey. For the majority of the time, windspeeds in the UK would be expected to be higher than this, resulting in higher background sound levels due to leaves rustling in the trees.
- 7.3.2. BS4142 states that: *‘Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night.’*<sup>6</sup>
- 7.3.3. The use of such low background sound levels is likely to result in a conservative assessment and the impact of the new specific sources is more likely to be overstated.

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<sup>6</sup> Point 1 p17 BS4142: 2014

#### 7.4. General comments about Matrix methodology

##### *HGVs on access road*

- 7.4.1. Matrix states in paragraph 5.10 that the noise from the HGVs on the access road should not be included in a BS4142 assessment. We would dispute this. BS4142 states that it is not applicable to “the passage of vehicles on public highways”. However, the access road is not a public highway and the HGVs should, strictly speaking, be assessed using BS4142 for the sound generated whilst navigating the site.
- 7.4.2. We understand why it may be appropriate to exclude HGVs on the access road from the assessment because there would be nothing to prevent these same vehicles using the B4385 and the B4367 to access a site at another location. Both of these roads would see HGVs travelling closer to receivers A-E and there would be no statutory instrument to stop them doing so.

##### *Cumulative impact*

- 7.4.3. A BS4142 assessment is based on the excess of the rating level over the background sound level. Matrix has compared the rating level of individual activities to the typical background sound levels; however, many of the activities are likely to occur *simultaneously*. For example: the biomass boiler and the extract fans run 24-hours a day. The combined rating level of these two sources should be added to those of the unloading noise and feed silo deliveries to assess the cumulative impact.

## 8. 3D noise model

- 8.1.1. A 3D noise model has been created in SoundPLAN™ to predict the specific sound levels at the five nearest residential receivers (A-E) selected by Matrix. The model uses ISO 9613-2<sup>7</sup> to take account of the distance between source and receiver, screening from barriers and terrain, ground effects, atmospheric attenuation and reflections from objects. The results have been summarised in Table 5, colour contour plots of each situation can be found in the appendix.
- 8.1.2. The propagation of sound from each source has been considered separately to allow for comparison with the results provided by Matrix. Where the source data does not include an octave band spectrum, the attenuation in the 500Hz octave band has been assumed, as per Note 1 of ISO9613-2. The ground absorption has been assumed to be 0.6 for the entire area of the digital ground model to reflect the mixed nature of the intervening ground between the sources and the receivers.

Situation	Receiver	Day, dB L <sub>Aeq,1-hour</sub>		Night, dB L <sub>Aeq,15-min</sub>	
		Matrix result	Modelled result	Matrix result	Modelled result
Extract fans	A	18	24	12	18
	B	24	25	18	18
	C	24	25	18	19
	D	25	26	19	20
	E	24	24	18	17
Biomass boiler	A	11	14	11	14
	B	18	16	18	16
	C	18	18	18	18
	D	22	20	22	20
	E	19	15	19	15
Forklift Manoeuvre	A	10	9	11	10
	B	10	10	12	11
	C	11	11	12	12
	D	13	13	14	15
	E	13	13	14	15
HGV Manoeuvre	A	6	4	12	10
	B	6	5	12	12
	C	7	6	13	13
	D	8	9	14	15
	E	8	9	14	15
Feed delivery	A	19/18	12/17		
	B	23/22	21/18		
	C	24/25	18/21		
	D	21/23	18/21		
	E	29/30	32/34		
Access roads	A		16		22
	B		21		27
	C		20		26
	D		19		25
	E		14		20

Table 5 – Comparison of specific sound levels in the Matrix report and from our own 3D noise model

<sup>7</sup> ISO9613-2:1996 "Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation"

8.1.3. Generally, the predicted specific sound levels provided by Matrix and calculated using SoundPLAN™ show very good agreement. This is particularly the case given the large intervening distances between the sources and the receivers. The main differences in the results are summarised as follows:

- Elevated sources, i.e. the flues, are generally predicted by Matrix to be lower at receiver A
- Sources on the concrete apron are generally predicted by Matrix to be higher at receiver A
- Filling the feed silos has been predicted by Matrix to be 3-4dB lower at receiver E

8.1.4. The only disparity that is significant to the assessment is point (c). If the rating level were to increase by 3dB, the outcome of the assessment would become an **'adverse impact'** likely outcome based on the character penalties and background sound level used by Matrix.

## 8.2. Cumulative assessment

8.2.1. As discussed in section 7.4, because many of the specific sources operate continuously, the cumulative impact of these sources would normally be assessed. Based on the description of the activities in the Matrix report, we would suggest assessing the sound in the following situations:

- **Situation 1:** Extracts, biomass boiler, HGV manoeuvre, forklift unloading HGV and HGV on access road
- **Situation 2:** Extracts, biomass boiler, feed silo delivery and HGV on access road (feed deliveries only occurring during the day)

8.2.2. The results of these two assessments have been summarised in Table 6. For the purposes of this assessment the specific sound levels calculated using our 3D noise model have been combined with the character corrections proposed by Matrix. The additional specific sound from the deliveries on the access road has been included in the assessment and the same character corrections have been made as for the HGV manoeuvring in the yard during deliveries.

Situation	Receiver	Day			Night		
		Rating level, dB(A)	Background sound level, dB $L_{A90}$	Assessment level, dB	Rating level, dB(A)	Background sound level, dB $L_{A90}$	Assessment level, dB
Situation 1	A	27	28	-1	28	21	+7
	B	29		+1	33		+12
	C	29		+1	32		+11
	D	29		+1	32		+11
	E	27		-1	29		+8
Situation 2	A	26/27		-2/-1	20/19		-1/-2
	B	29/29		+1/+1	20/20		-1/-1
	C	29/29		+1/+1	22/22		+1/+1
	D	29/29		+1/+1	23/23		+2/+2
	E	33/35		+5/+7	19/19		-2/-2

(2)

Table 6 – BS4142 of the cumulative situations 1 and 2

8.2.3. The assessment outcomes shown in green, yellow and red in Table 6 have been described in Table 7.

	<p><b>Low impact</b></p> <p><i>“The lower the rating level relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.”</i></p>
	<p><b>Adverse impact</b></p> <p><i>“A difference of around +5dB is likely to be an indication of an adverse impact, depending on the context.”</i></p>
	<p><b>Significant adverse impact</b></p> <p><i>“A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending on the context.”</i></p>

Table 7 - BS4142 assessment outcomes

8.2.4. As a result of the cumulative assessment, with reference to Table 6, there are two broad situations where an adverse impact is likely as a result of the proposed commercial activities:

- (1) The commercial activity during the night is predicted to have a **significant adverse impact**. The dominant source causing this assessment outcome is the use of the access road, which is not currently assessed using BS4142 by the Matrix report.
- (2) The feed silos are predicted to have an **adverse impact** on receiver E. This appears to be because the noise barrier is not as effective at this receiver as predicted by Matrix. We expect this to be because reflections from the sheds and other local terrain are not taken into account in the calculation.

## 9. Conclusions

9.1.1. In some areas, the Matrix report is more positive than we would have assessed the site. This includes:

### ***HGVs on access road***

9.1.2. The Matrix assessment excluded the specific sound from the HGVs on the grounds that sound from HGVs on roads should not be included in a BS4142 assessment. We would disagree with this approach because the exclusion from BS4142 only applies public roads.

9.1.3. We have included the sound of HGVs on the access road in our own BS4142 assessment. The inclusion of these sources in the assessment does change the outcome.

### ***Character corrections***

9.1.4. Character corrections were not applied by Matrix to the extract fans, biomass boilers and feed silo deliveries. All of these activities involve the use of rotating and/or reciprocating machinery that would certainly have some tonality. The lack of tonality penalties may well be justified; however, such justification isn't clear from the report when other similar activities have had a tonality penalty applied.

### ***Cumulative assessment***

9.1.5. Many of the activities that have been assessed in the Matrix report would be expected to occur at the same time. For this reason we think cumulative assessments would be appropriate, taking into account the fact that the extract fans and the biomass boilers operate 24-hours a day alongside any delivery activities. The results of our cumulative assessment are based on the results of our own 3D noise model, the character penalties were taken directly from the Matrix assessment and the sound from the HGVs on the access road has been included in the assessment. However, the results of our cumulative assessment do not significantly change the outcome of the assessment.

### ***Feed silo noise at receiver E***

9.1.6. Our own modelling suggests that the specific sound from the feed silo delivery has been under predicted at receiver E. We expect this to be because the effectiveness of the noise barrier is compromised by specular reflections from the sheds and terrain.

## 9.2. Summary

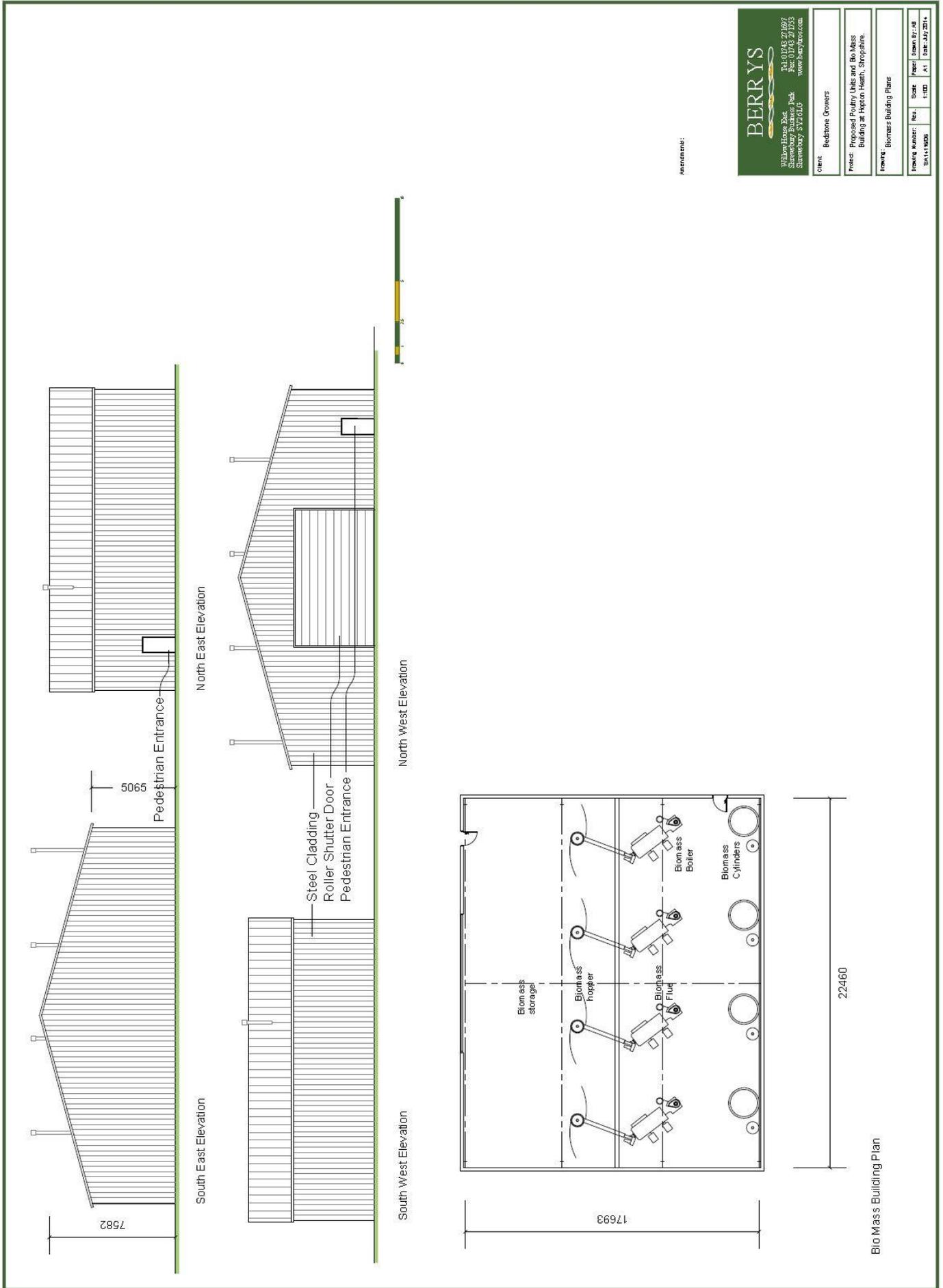
9.2.1. The Matrix report is relatively robust and was able to cope with the treatment of the sources as cumulative; however, the assessment outcome is changed by the:

- (c) the inclusion of HGV noise on the access road; and,
- (d) the noise barrier being less effective than predicted at protecting receiver E from noise from the feed-silo delivery.

***Matt Torjussen*** MSc, MIOA, CEng  
Noise & Vibration Consultant

## Appendix

### APPENDIX A: Plans downloaded from the planning portal to aid 3D noise model



**BERRYS**  
 Willow House East, Tel: 01743 271897  
 Staveley Business Park, Fax: 01743 271953  
 Staveley S22 6LU, www.berrys.com

Client: Bedstone Owners

Project: Proposed Refurb, Utility and Bio Mass Building at Hapton Heath, Staveley.

Drawing: Biomass Building Plans

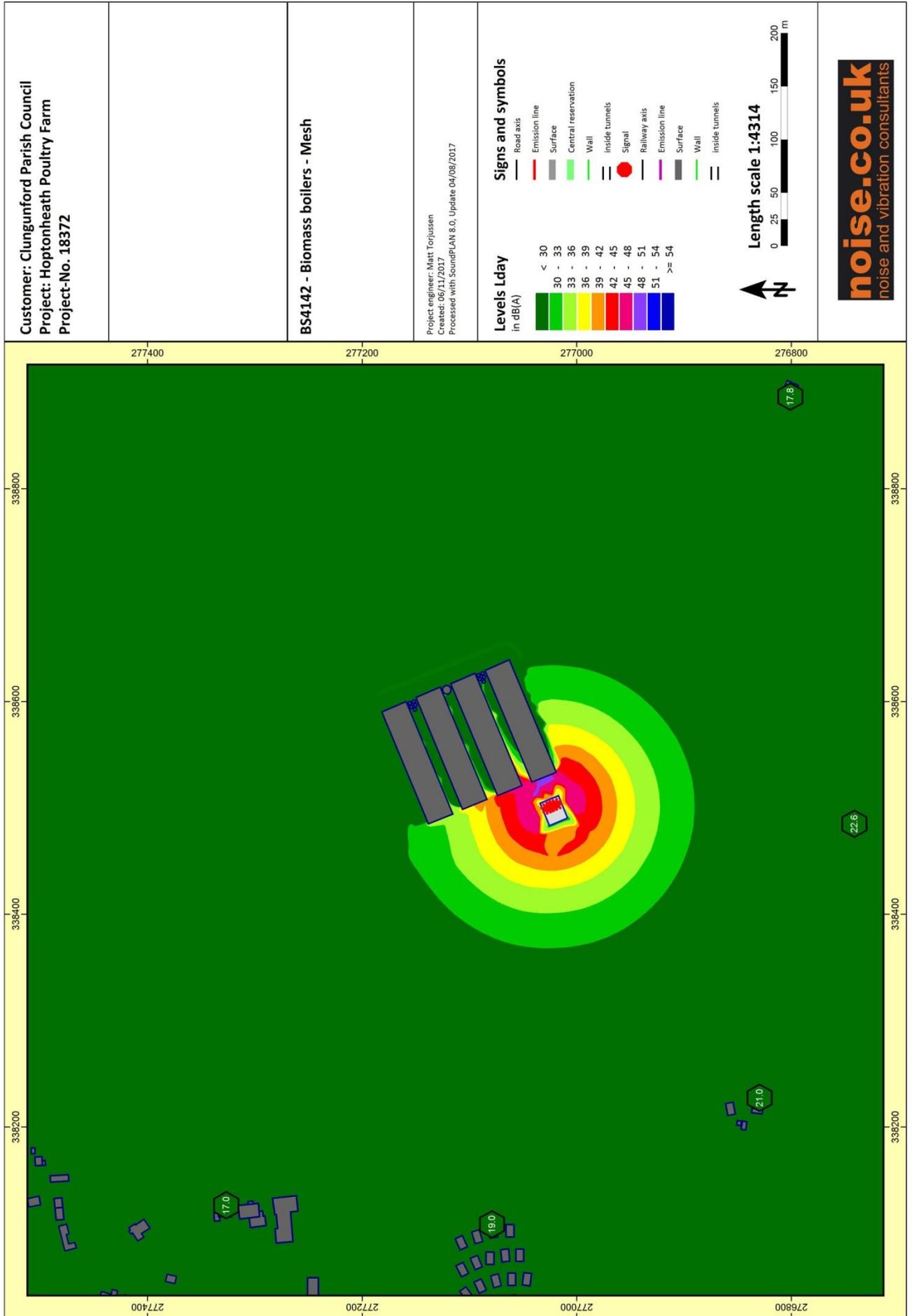
Drawing Number:	Rev:	Scale:	Sheet:	Drawn By:
BA1119006	1	1:100	A1	08/07/2014



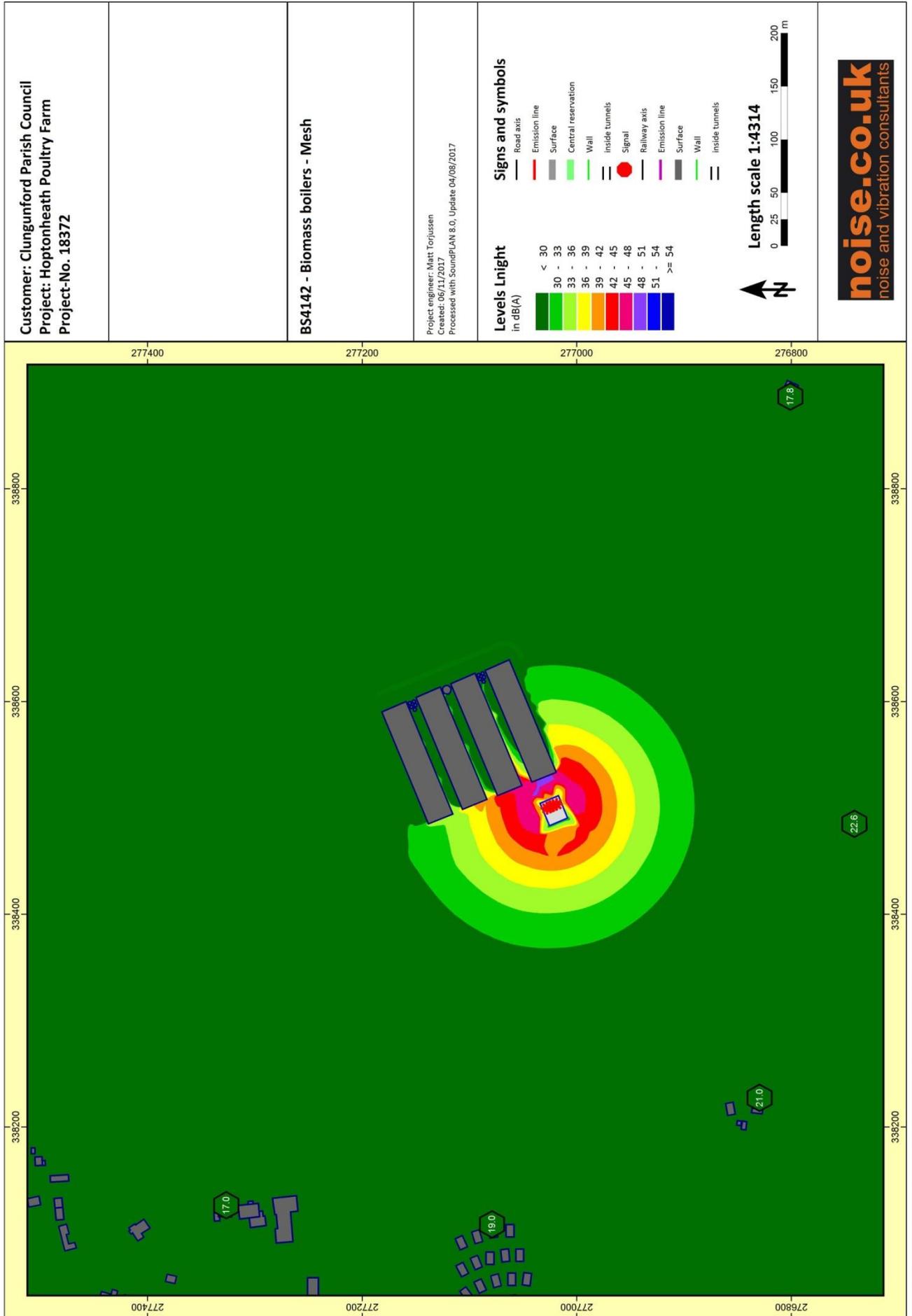
Ordnance Survey (c) Crown Copyright 2013. All rights reserved. Licence number 100020449

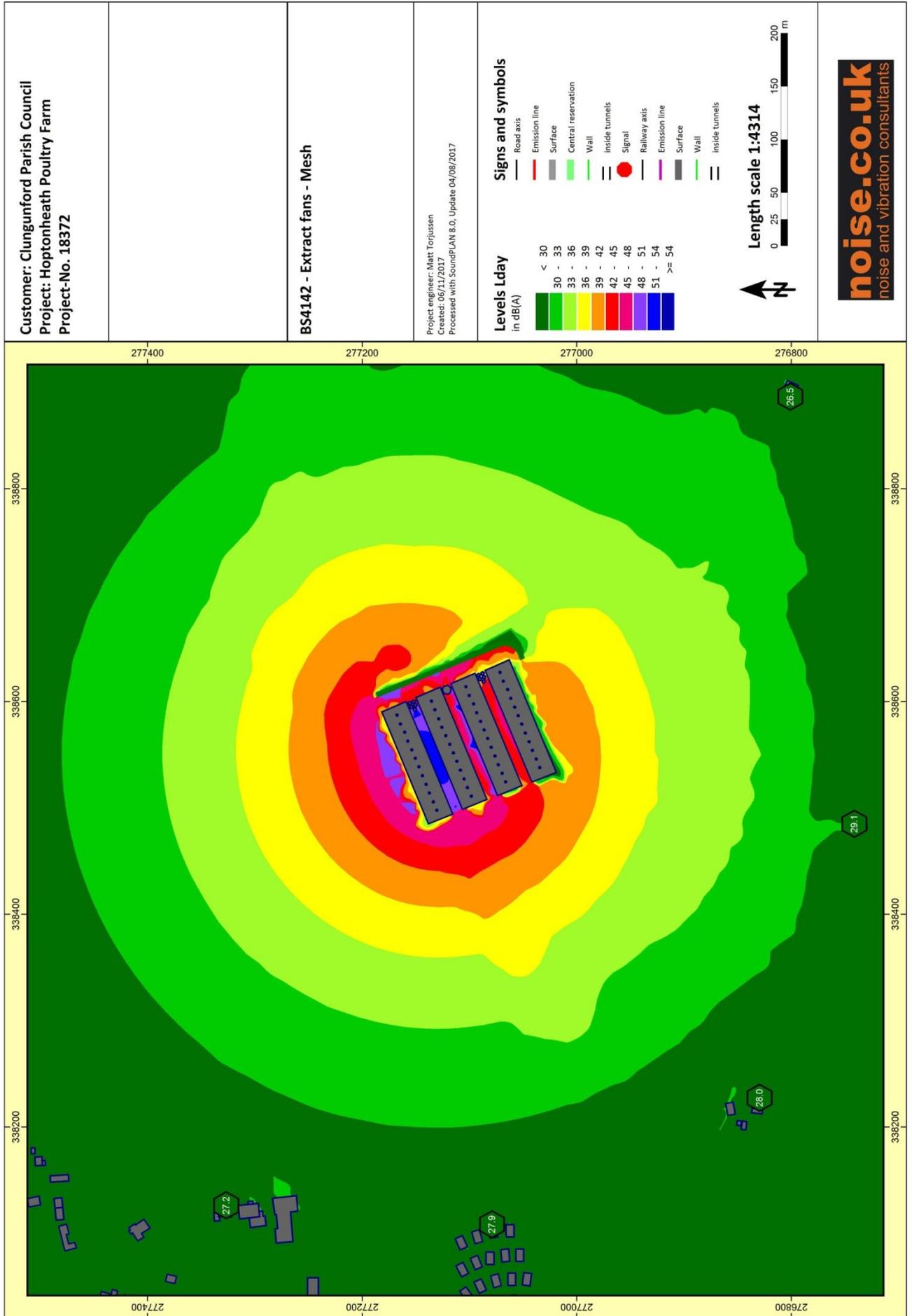


**APPENDIX F: Noise contour plots**

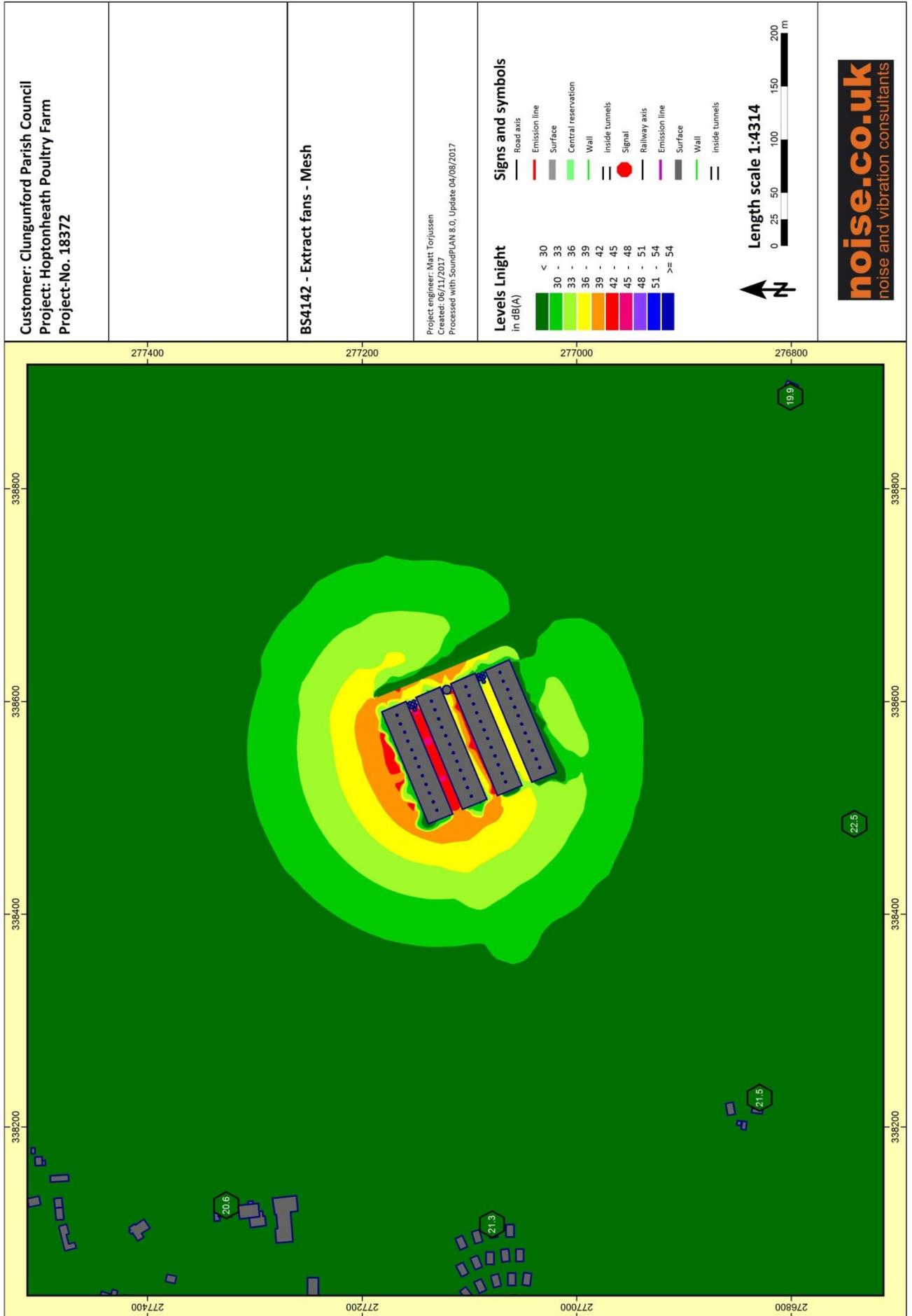


C:\Users\matt\Desktop\SoundPLAN - Hoptonheath Poultry Farm\BS4142 - Biomass boiler.sgs

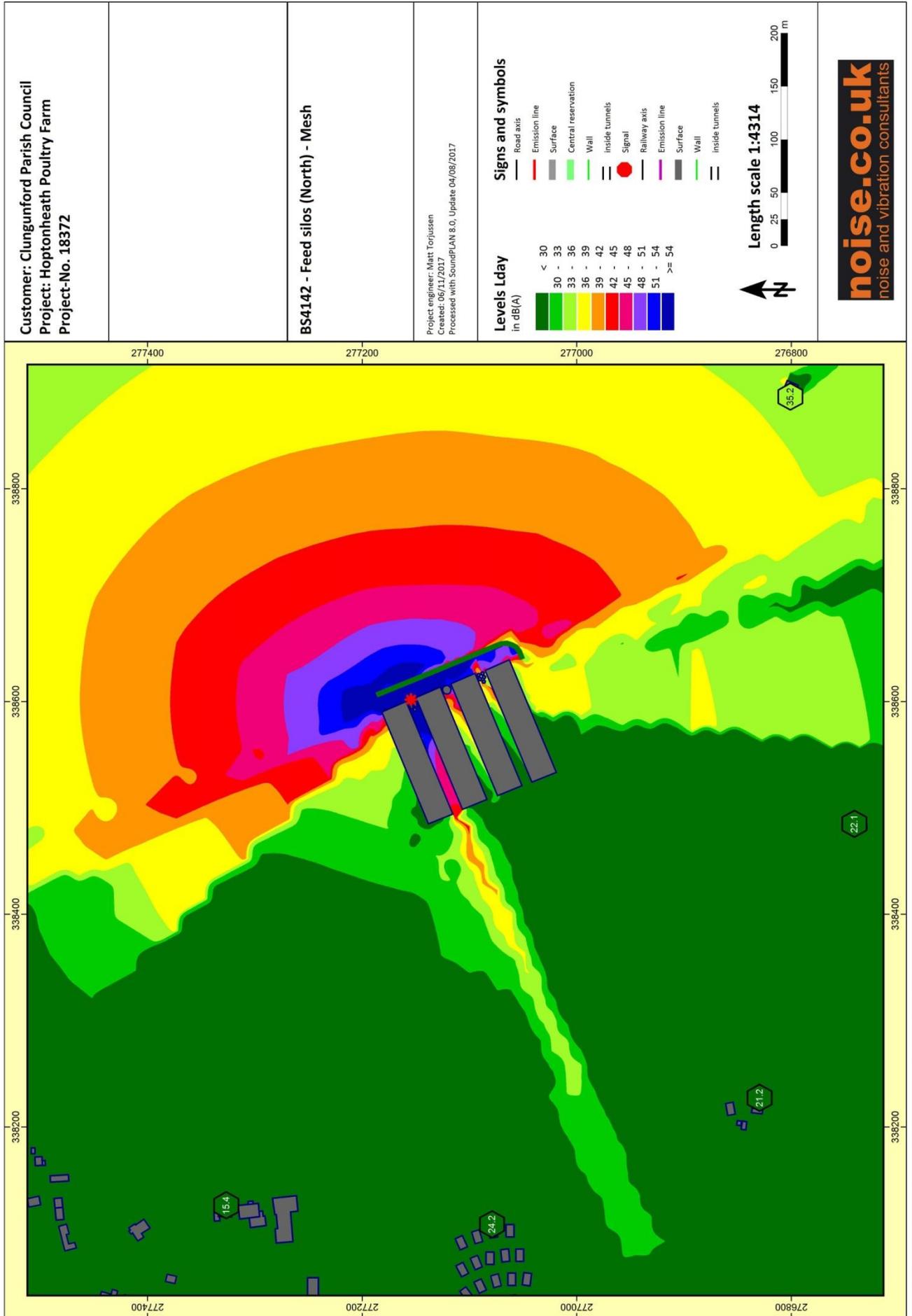




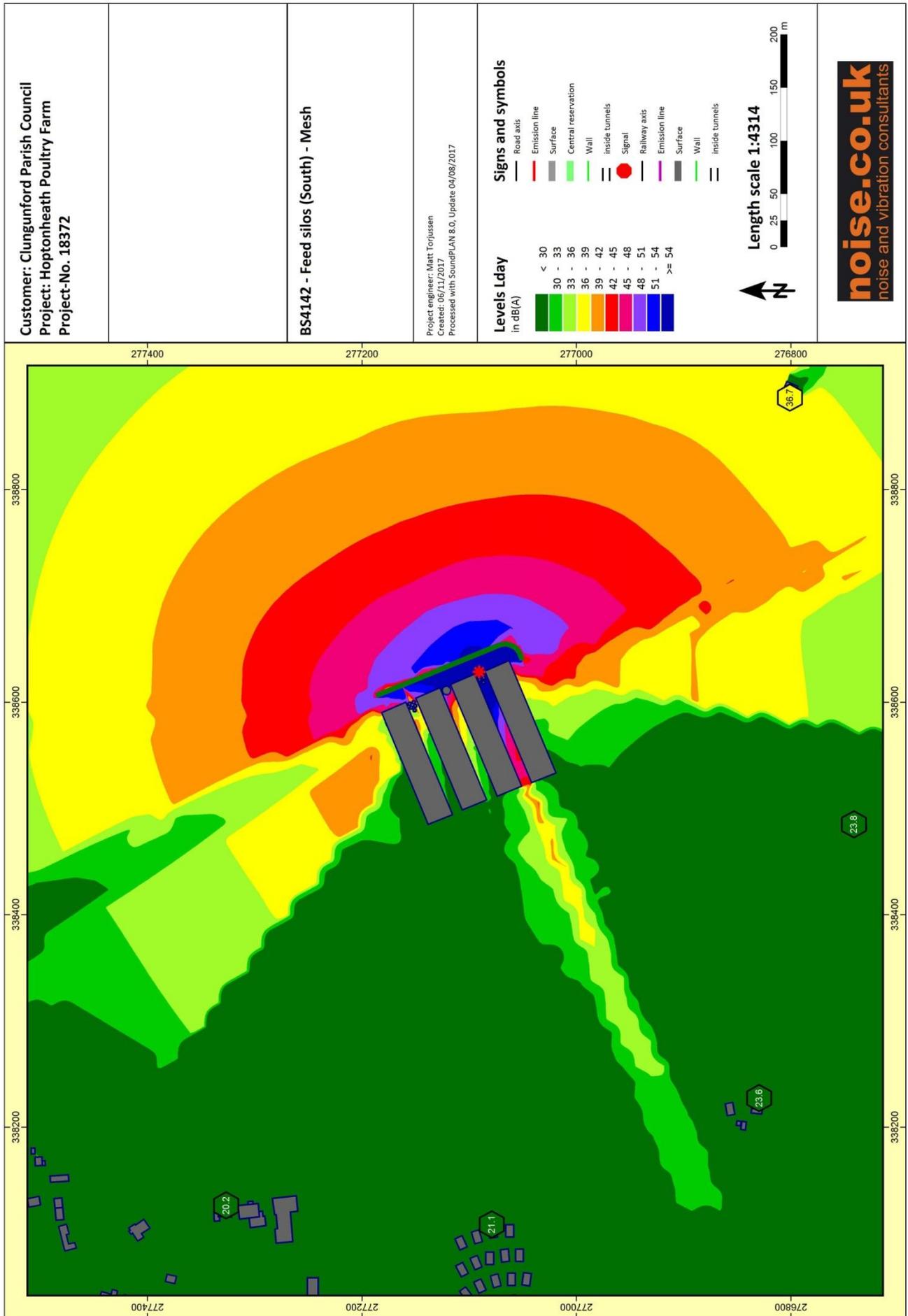
C:\Users\matt\Desktop\SoundPLAN - Hoptonheath Poultry Farm\BS4142 - Extract fans.sgs



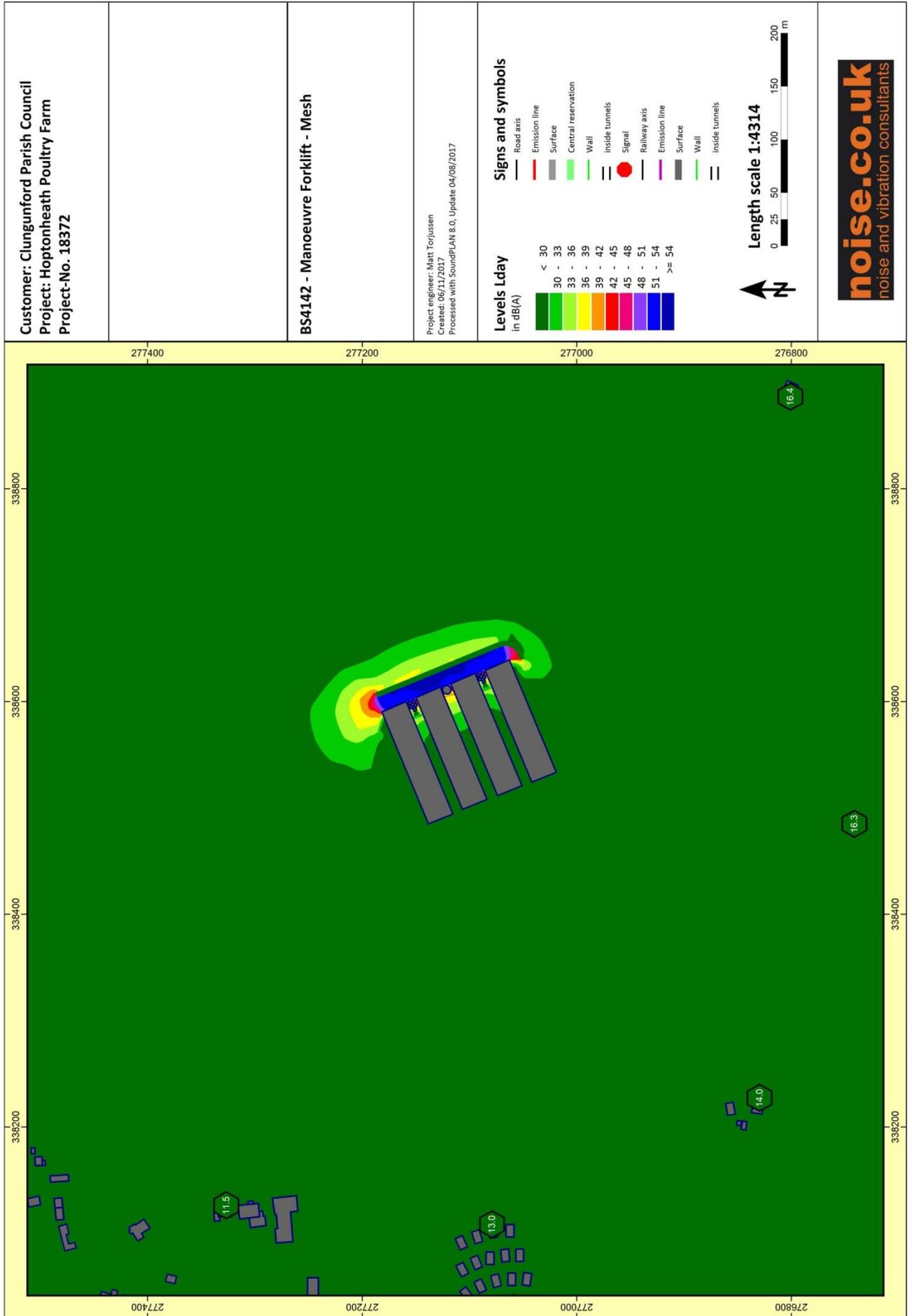
C:\Users\matt\Desktop\SoundPLAN - Hoptonheath Poultry Farm\BS4142 - Extract fans - Night.sgs

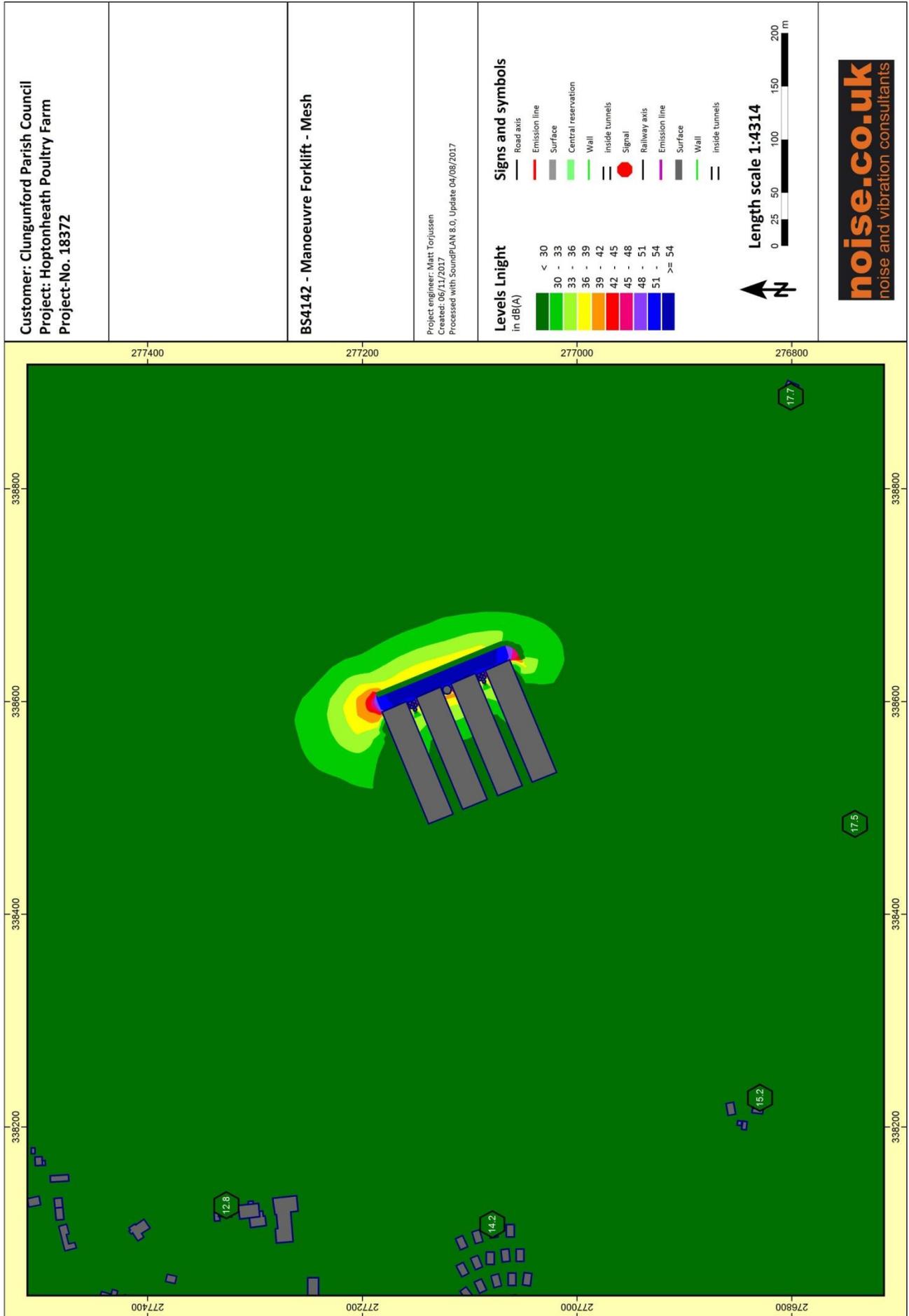


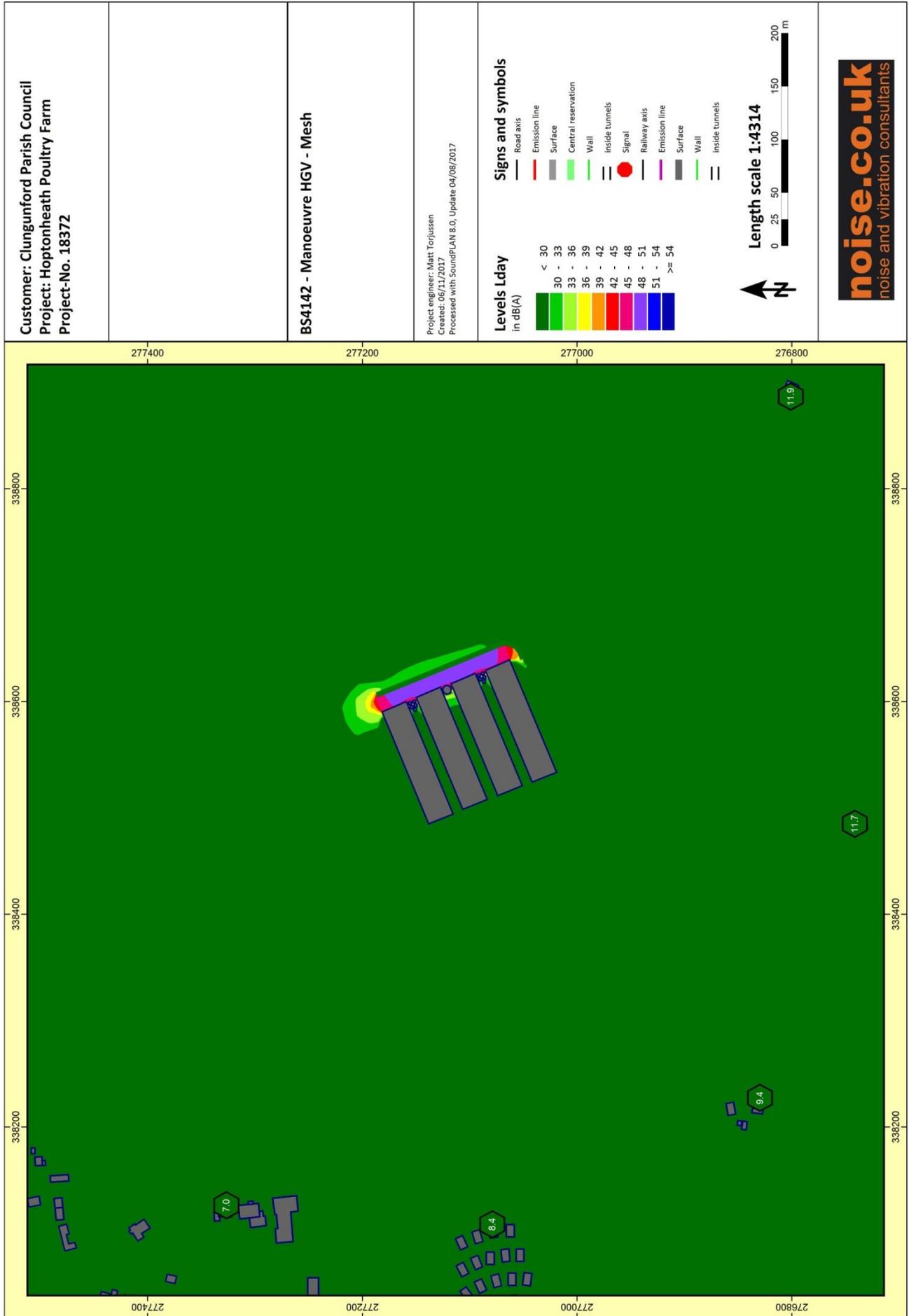
C:\Users\matt\Desktop\SoundPLAN - Hoptonheath Poultry Farm\BS4142 - Feed silos (North).ags

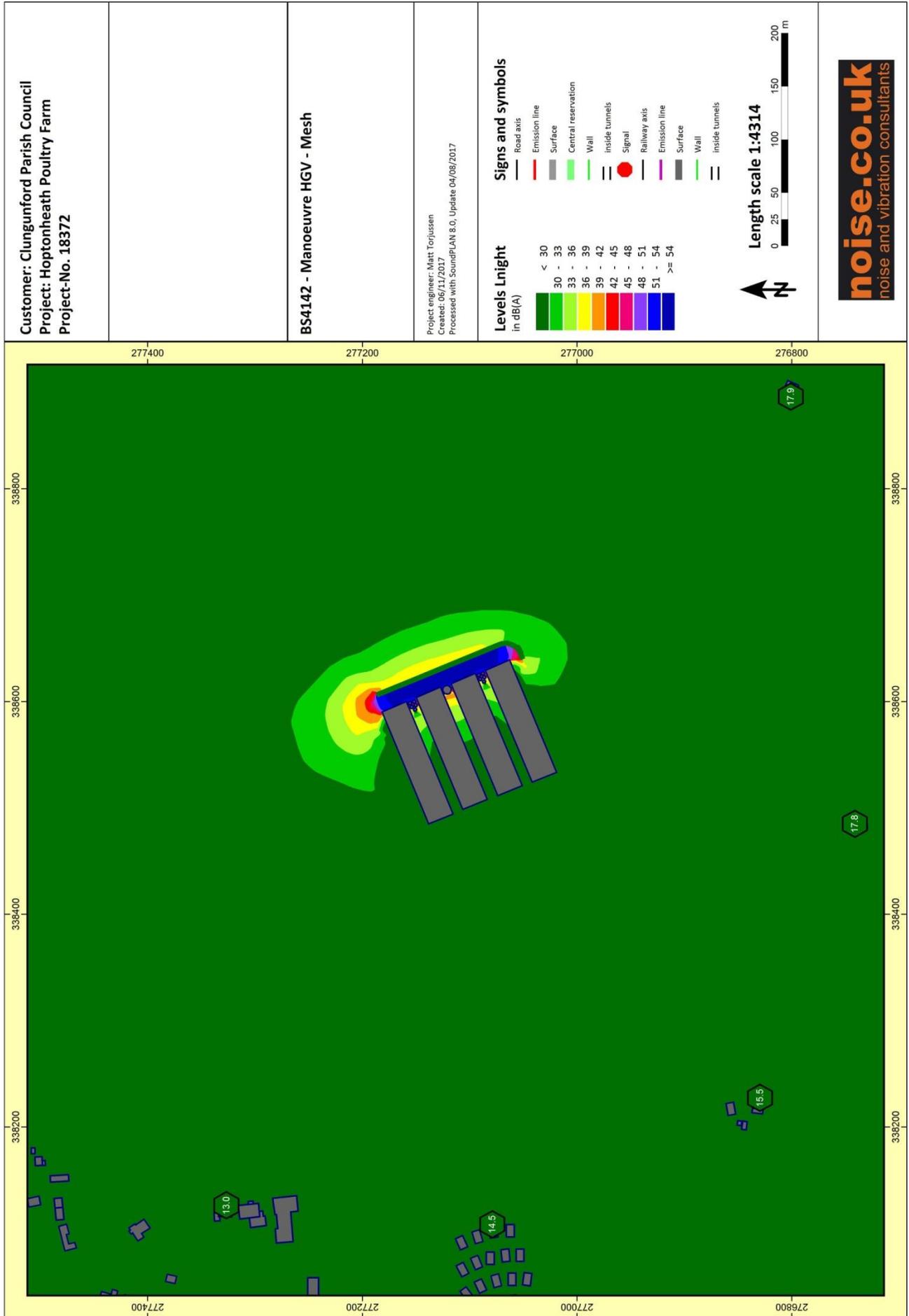


C:\Users\matt\Desktop\SoundPLAN - Hoptonheath Poultry Farm\BS4142 - Feed silos (South).ags

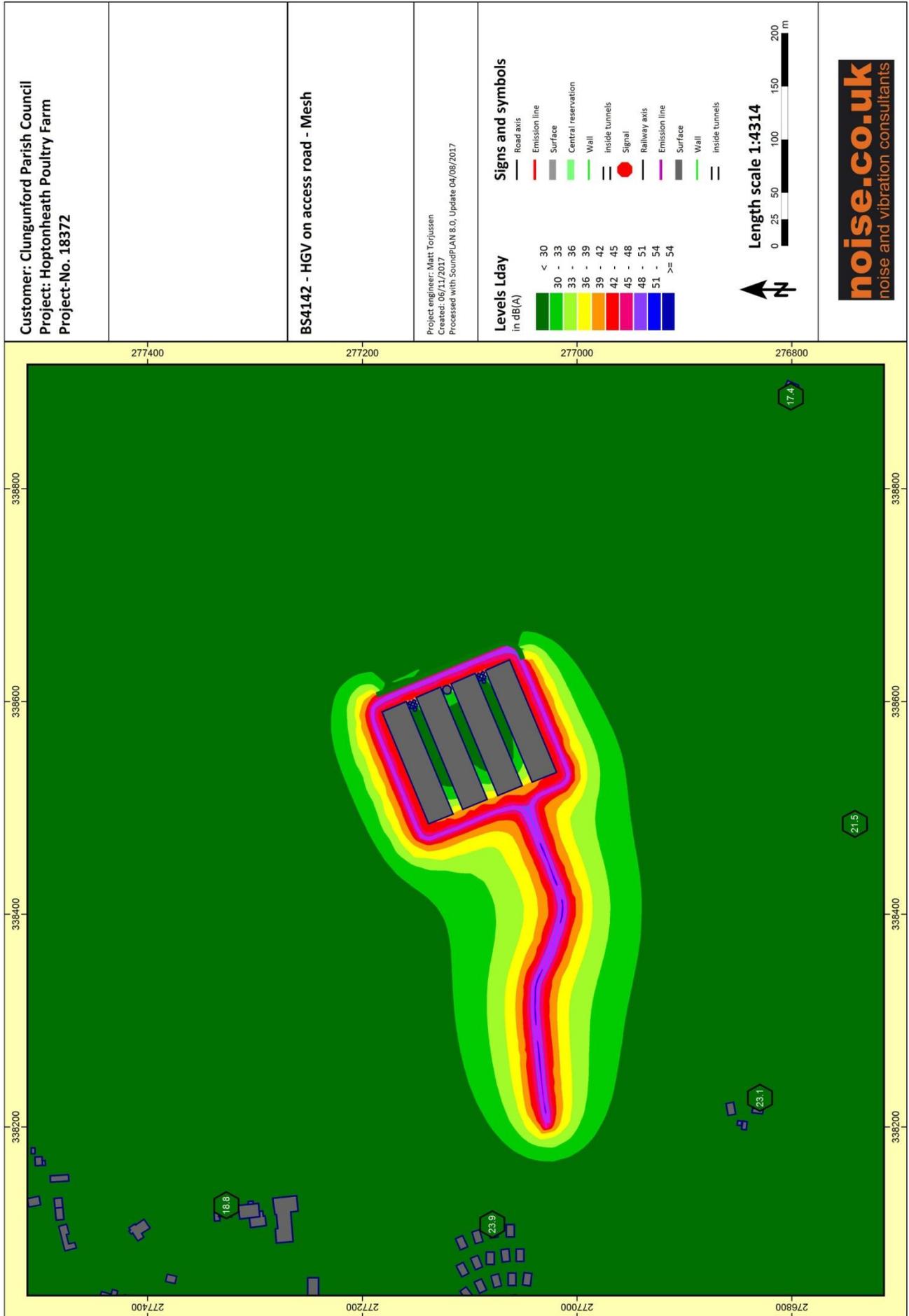




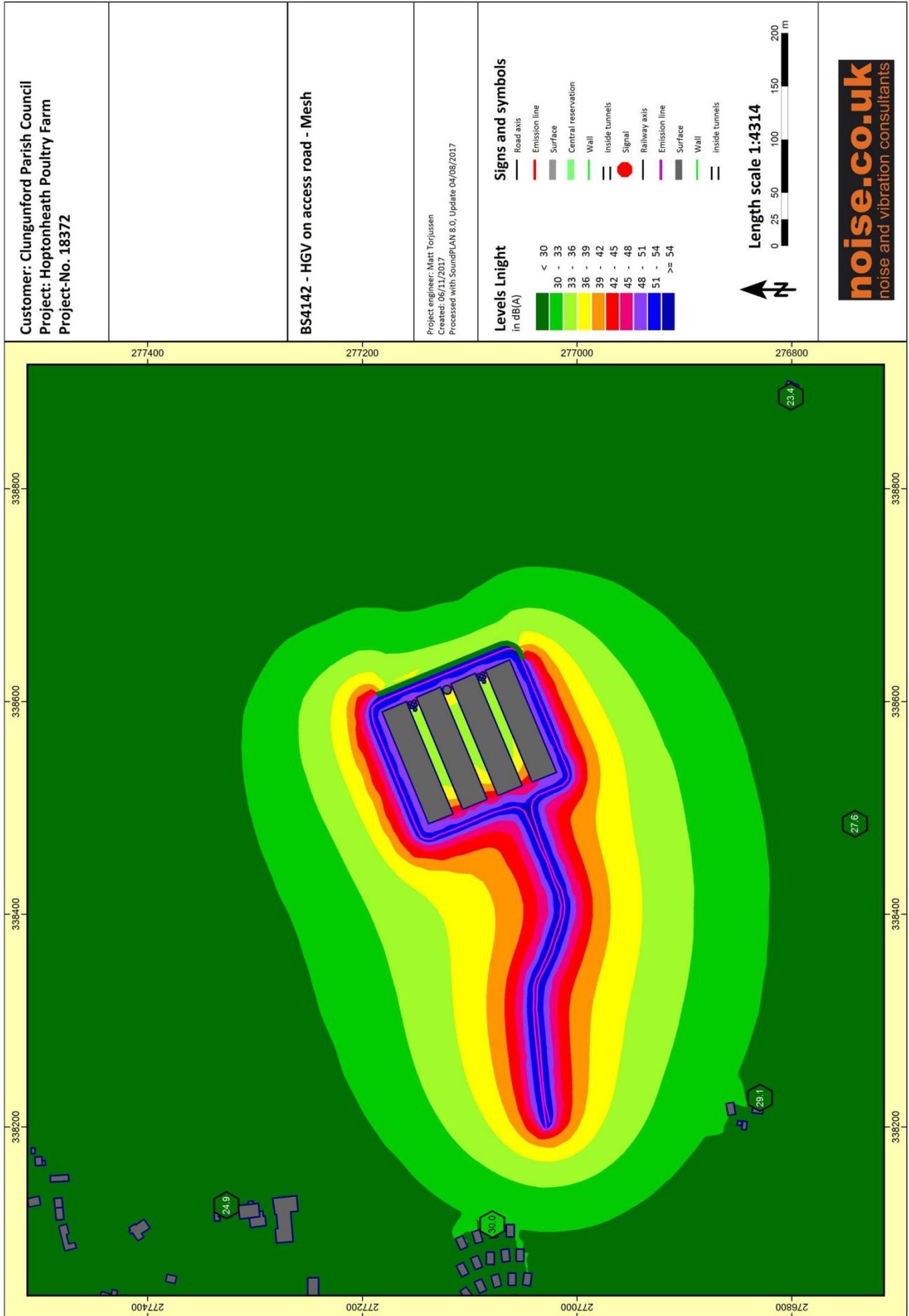




C:\Users\matt\Desktop\SoundPLAN - Hoptonheath Poultry Farm\BS4142 - HGV>Loading Night...igs



C:\Users\matt\Desktop\SoundPLAN - Hoptonheath Poultry Farm\BS4142 - HGV on access road.ags



Proposed Poultry Units South East  
of Hopton Heath Shropshire

Planning Application  
Reference 17/04546/EIA

Objection of Clungunford Parish  
Council

Appendix C

## APPENDIX C

### TRANSPORT

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#### Introduction

It is noted that the majority of the vehicular traffic originating from outside the holding of the applicant and the associated holding of Bedstone Growers at Heath Farm will access the site via the A4113 and B4385. Traffic originating at Heath Farm will access the site via the B4387 and B4385 (in fact only a distance of around 300 metres). The junction of the B4387 and B4385 is a "T" junction (map reference: SO 38239 76848). The B4387/B4385 junction and the site lie in Shropshire, while Heath Farm and the entrance to it lie in Herefordshire.

No highways assessment has been provided for the applicant's existing operations at Heath Farm. However, it is reasonable to assume the majority of the traffic visiting Heath Farm, and certainly all heavy delivery traffic, passes through the B4387/B4385 junction. Furthermore, the scale of agricultural and industrial operations at Heath Farm is of an order of magnitude greater than that proposed at the site. In addition to broiler housing for 295,000 chicks per cycle, Heath Farm also contains fruit growing operations, temporary housing for migrant workers and a large anaerobic biodigester incorporating combined heat and power ("CHP") and wood-chip drying facilities. As will be noted from Appendix D on AD plant operations, traffic movements at Heath Farm are likely to be considerably in excess of those stated in planning applications made to Herefordshire Council as the intensity of AD plant operations has grown considerably.

Despite the applicant applying nominally in the name of Hopstone Growers, the applicant admits freely that that the site will be operated in tandem with the Heath Farm operation. It would not seem possible to present a true and accurate assessment of traffic use without taking traffic to Heath Farm into account and all proceeding comments on the highway assessment should be considered in this light.

The applicant has provided figures for projected movements in and out of the site during normal operations and during construction. We do not intend to comment on the latter, but we have identified serious flaws in the figures provided for daily operations. We have focussed on what would appear to be main types of traffic generated by the site, those identified by the applicant and one further by us.

Table 1 - Transport Movements at Application Site

Type of Vehicle	Traffic Source	Total Movements per Cycle* <sup>1</sup> (Woodsyde)	Total Movements per Cycle (The Parish Council)	Peak Movements per hour (Woodsyde)	Peak Move-ments per hour (The Parish Council)	Total Move-ments per Annum (Woodsyde)	Total Move-ments per Annum (The Parish Council)
HGV	Bedding Delivery	2	2	2	2	14	14
HGV	Chick Delivery	4	4	1	1	28	28
HGV	Feed Delivery	22	67.92	2	2	154	475.49
HGV	Mortality Collection	6	6	2	2	294	294
HGV/ Tractors	Fuel Delivery	2	4.83-10.57	2	2	12	33.79-74
HGV	Poultry Collection	34	70-116	2		238	490-812
Tractors	Manure Collection	20	83.83	2	8.37	140	586.8
Tractors	Manure Processing	0	2	0	1	0	14

<sup>1</sup> a cycle is 7 weeks.

HGV/Tractors	AD digestate removal (additional)	0		0		0	
Small Vehicles	Vets, Engineers, company inspection, cleaning contractors, catchers	12	12	1	1	588	588
Small Vehicles	Employees <sup>2</sup>	0	392	0	1	0	2920
<b>Totals</b>		<b>102</b>	<b>644.58 to 696.32</b>	<b>14</b>	<b>20.37</b>	<b>1468</b>	<b>5444.08 to 5806.29</b>

#### (a) Feed Delivery

It is estimated that at the end of a typical cycle each broiler chick grown to an industry standard liveweight of 2.4kg will have consumed 1.9 times its final liveweight in feed, soya being the majority component<sup>3</sup>. All feed is processed to a high degree to match the lifecycle of the broiler chick and will of necessity be delivered onto the site from a specialist feed mill to ensure consistency. The applicant is believed to obtain all its poultry feed from Cargill UK's Herefordshire mills which rely on soya imported from North and South America as the main bulk ingredient in their feed mix.

At a final liveweight 2.4 kg, it is possible to calculate the feed required per cycle:

$$(2.4\text{kg} \times 1.9) \times 216,000 / 1000 = 984.96 \text{ tonnes}$$

A six axle articulated tipping HGV of 44 tonnes maximum UK legal gross train<sup>4</sup> weight has a maximum possible payload of c.29 tonnes<sup>5</sup>. The applicant has suggested that there will be a

<sup>2</sup> 365 day operation assumed

<sup>3</sup> Page 12 and Table 11, *Special Studies in Agricultural Economics No 59: The Structure and Economics of Broiler Production in England*, Andrew Sheppard, University of Exeter Centre for Rural Research June 2004

<sup>4</sup> Schedule 2, Road Vehicles (Authorised Weight) Regulations 1998 (as amended by The Road Vehicles (Authorised Weight) (Amendment) Regulations 2000)

<sup>5</sup> Assuming weight 15 tonne tractor/trailer HGV combination. These are more usually c.18 tonnes.

minimum 22 feed movements per cycle, or 11 loads. This represents a maximum possible total feed delivery during each cycle of 319 tonnes, which would appear a gross underestimate.

984.96 tonnes of feed would represent 33.96 loads, or 67.92 movements per cycle, 475.44 per year.

## (b) Poultry removal.

Finished broilers are generally transported in palletted modular compartments mounted on curtain sided flat-bed HGV trailers. Each modular compartment usually contains 4 stacked drawers, and there are usually 22 compartments per HGV in two layers, giving a stacked height of 8 drawers. The minimum space standard for transporting poultry weighing between 1.6 and 3kg is 160 cm<sup>2</sup> per kg<sup>6</sup>. A typical three axle flat-bed trailer has a useable load space measuring 12m x 2.5m<sup>7</sup>. Allowing 10% space wastage for the compartment system, fixings, etc, each drawer layer has a maximum capacity of roughly 700 broilers at 2.4kg liveweight. This gives a maximum total load of 5600 birds per trailer.

However, during hotter periods, the loading density must be reduced dramatically to avoid heat-stress induced mortality. It is also usual to travel at night. It is therefore suggested that stocking of 3-4000 birds per load is a more typical.

Assuming rearing mortality averages around 1% per week, the applicant will need to transport 200,000-205,000 finished broilers at the completion of each cycle. In optimum conditions, it is submitted that the applicant will require a minimum 35 loads per cycle to remove finished broilers (i.e. 70 movements) to meet welfare requirements. In sub-optimal conditions, which may be considered the norm, the number of loads could rise to 58, or 116 movements.

## (c) Removal of manure from sheds.

At the conclusion of each crop cycle each shed will require manure removal and cleaning. It is submitted that this will be carried out either by a tractor/loader combination or by telehandlers. As there is no provision onsite for machinery storage, it is submitted that the

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<sup>6</sup> Council Regulation (EC) No. 1/2005, Annex 1, Chapter VIII E

<sup>7</sup> Regulation 7.7 and 8.4 The Road Vehicles (Construction and Use) Regulations 1986

applicant will either use machines stored by his associated business, Bedstone Growers at Heath Farm or, more likely, specialist contractors. This will result in at least 14 additional movements per crop cycle.

#### (d) Removal of Manure from site

Production of poultry manure by the site is estimated as follows:

1.5 tonnes per month<sup>8</sup> per 1000 birds at 85% occupancy

$(12 \times (216,000 \text{ birds} \times 1.5)) / 1000 = 3888 \text{ tonnes per annum}^9$

The applicant has factored 20 tractor movements per crop which equates to 140 per annum. This represents 70 single loads of manure.

While it is possible to run a tractor/trailer combination with a gross train weight of 31 tonnes<sup>10</sup>, the maximum gross tonnage for an agricultural trailer is 18,290 kg<sup>11</sup>. Most standard heavy-duty root crop or dump trailers suitable for movement of bulky agricultural loads have a tare weight in the region of 5 to 5.5 tonnes, giving a rough maximum legal load of manure in any one load of 13,250 kg. 70 single loads would therefore only represent a maximum of 927.5 tonnes. 3888 tonnes would produce 293.4 loads per annum, or 586.8 movements.

The applicant has represented that manure removal movements will take place wholly over 2 days at the end of each cycle with a peak of 2 movements per hour. If the applicant maintains this timetable it is submitted that manure removal is more likely to peak at 8.37 tractor movements per hour from the site.

#### (e) Digestate removal

It is noted that the applicant intends to take all manure loads to the anaerobic digester at Heath Farm. The terms of the section 106 Agreement require the applicant to take all digestate out

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<sup>8</sup> DEFRA advisory leaflet PB 14050. However, also see Poultry waste management in developing Countries: Poultry manure characteristics, FAO United Nations. Which suggests 2.4 tonnes per month is more appropriate average. <http://www.fao.org/docrep/013/al718e/al718e00.pdf>

<sup>9</sup> The applicant has stated in paragraph 4.73 of the Section 106 Agreement that manure produced by the site will be 1,900 tonnes- This is highly anomalous compared to DEFRA guidelines and scientific guidance as *ibid*.

<sup>10</sup> Regulation 76, Road Vehicles (Authorised Weight) Regulations 1998 (as amended by The Road Vehicles (Authorised Weight) (Amendment) Regulations 2000)

<sup>11</sup> Regulation 75(1)(6) The Road Vehicles (Construction and Use) Regulations 1986

of the Clun SAC catchment area (as defined). Additional tractor movements in and out of Heath Farm are not accounted for.

#### (f) Fuel Delivery

The applicant intends to heat the poultry sheds with four 99 kw biomass boilers fuelled (variously in the applicant's Environment Statement) by straw or woodchips. It is logical to assume that as the applicant appears to have begun the commercial drying of woodchip as an adjunct to the AD plant at Heath Farm, woodchip is the intended fuel source. The applicant apparently requires 1,750,000 kwh of heat per annum to operate<sup>12</sup>.

Woodchips have an energy density of 2-4kWh/kg<sup>13</sup> depending on moisture content. Given the availability of commercial drying facilities at Heath Farm to provide chips with low moisture content, the applicant can expect the upper end of this figure. Assuming 90% efficiency is achievable with a modern biomass system, the applicant can therefore expect the biomass boilers to burn somewhere in the region of 490 tonnes of woodchip per annum.

If the applicant were delivering woodchip to the site by HGV in 29 tonne loads, this would equate to 16.89 loads or 33.79 movements per annum. However, we would submit that the applicant is more likely to deliver fuel to the site by tractor from his own dryer at Heath Farm with a maximum possible load of 13.25 tonnes per load. This would equate to 37 loads or 74 movements per annum. It should also be noted that woodchip is a cargo with significant air content. It is unlikely that an HGV or tractor trailer could be filled to its maximum payload.

#### (g) Employee use

Projected movements arising from normal access and egress by employees are assessed by the applicant as nil. This is facile. The focus of operations at Heath Farm is a brisk five to ten minute walk from the site and the application contains no provision for human sanitation at the application site. As the application site is projected to require two full time employees, one

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<sup>12</sup> Page 9, paragraph 31.8, Environmental Statement

<sup>13</sup> Page 6, Table 1, *A guide to small-scale wood fuel (biomass) heating systems*, Wood Fuel South West Advice Service and Forestry Commission <https://www.cse.org.uk/pdf/guide%20to%20small-scale%20wood-fuelled%20heating.pdf>

would submit that at least four traffic movements per employee per day is likely, or 2920 per year.

Proposed Poultry Units South East  
of Hopton Heath Shropshire

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Appendix D

## APPENDIX D

### ANAEROBIC DIGESTER CONCERNS

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#### Introduction

It is The Parish Council's submission that the applicant is operating its current anaerobic digestion plant and ancillary buildings ("the AD plant") at its Heath Farm site in breach of the original planning permission. This conclusion has been reached as a result of research into the application and long-term comments from residents in Hopton Heath and Broadward noting a general increase in traffic to Heath Farm over the last five years.

The Parish Council understands that the digestate tank for the AD plant is some 50% larger than that for which permission was originally granted. It is believed that electricity generation capacity is proven to be over 100% greater than originally envisaged with potential for further capacity latent in its current design

The applicant's has expanded his farming operations by renting further fields purely to provide additional feedstock for AD plant operations. It is also suggested in the Highways Assessment that the applicant may be introducing manure from off the farm, contrary to his original planning permission<sup>1</sup>.

The increase in size of the AD plant therefore led to a material increase in the intensity of operations surrounding it. No planning permission allowing this intensification has been applied for or granted. Furthermore in conjunction with other intensifications, the applicant

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<sup>1</sup> Page 11, Highways Assessment

may now be considered to be to operating a full scale industrial facility rather than an agricultural business with ancillary waste management.

The applicant appears to have constructed a large concrete apron and walled storage facility at grid reference: SO 37923 76725. It is unclear what this facility is for, but it does not appear to have received planning permission.

It is also believed that the applicant is operating alongside the AD plant a wood chip drying facility. The applicant has not received planning permission for this operation, which the Parish Council understands falls under planning use class B2, nor has it been declared for business rates. As the applicant does not currently have planning permission to operate biomass boilers at Heath Farm as proposed at the application site, the Parish Council are concerned that the wood chip dry facility is being operated to produce woodchip for commercial sale. The Parish Council do not consider that the applicant could have on its current farm sufficient timber to justify the investment required in a woodchip drying facility. The Parish Council is unaware that the applicant possesses a waste operation permit that would usually be required to dry third party woodchip.

It should be noted that the above must be viewed in conjunction with the applicant's expansion of its poultry operations at Heath Farm from 116,000 birds in 2001 to a current permitted population of 295,000.

## (a) Background

An AD plant relies on two basic processes; first methane is produced via the decomposition of plant or waste materials in a large heated reinforced chamber or digestate tank. This methane is siphoned off and burnt in a combined heat and power ("CHP") unit, essentially a large internal combustion engine/generator set, to produce electricity and heat. An efficient CHP unit will usually convert the latent energy in the methane burnt to 35% electricity, 50-55% captured heat and 10-15% lost heat.

The electricity produced can either be used by the operator or sold into the grid. Electricity produced via an AD plant is considered renewable energy and qualifies for government administered schemes to encourage the production of electricity without increasing carbon

dioxide emissions. All commercial participants are registered with OFGEM and their monthly generation outputs are recorded and put into the public domain (albeit somewhat in arrears)<sup>2</sup>.

Heat produced by the AD plant is used in the first instance to continue the anaerobic digestion process. However, the majority of the heat is available for use by the operator for commercial or domestic purposes.

Many AD plants are sited next to commercial broiler units as these have a high heating requirement that would otherwise require gas or oil powered heaters. Heat used to replace previous fossil fuel heating sources qualifies for the Renewable Heat Incentive, a feed in tariff like arrangement that pays a subsidy for each unit of heat produced. RHI recipients are also registered with OFGEM, but neither their identities nor the outputs of their sites are published in England and Wales.

A large AD plant may produce heat in excess of the requirements of the broiler production unit. This would be wasted unless the AD plant operator can find an appropriate industrial application, such as woodchip drying, to use the surplus heat.

## (b) Planning History

Planning permission (reference: NW100359/N) was granted for the AD plant on 1 June 2010 ("the 2010 application").

The specification for the AD plant in the Design and Access Statement accompanying the 2010 application stated the following in relation to the digestate tank:

*"The digestate tank is an above-ground open top enamel steel storage tank with a covered roof and has a capacity of 1200m<sup>3</sup>"<sup>3</sup>*

The specification for the AD plant in Design and Access Statement accompanying the 2010 application stated the following in relation to the CHP unit:

*"The biogas is used fuel a single CHP unit which has a rated output of 250 kW of electricity plus 450 kW of heat recovered from the engine jacket water and exhaust"<sup>4</sup>.*

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<sup>2</sup> <https://www.renewablesandchp.ofgem.gov.uk/Default.aspx> . The applicant's generator code is G00818BGEN

<sup>3</sup> Appendix A, paragraph 6.5 – *Design and Access Statement – Proposed Development of an Agricultural Anaerobic Digester at Heath Farm Hopton Heath Shropshire* prepared by ADAS UK Ltd February 2010

<sup>4</sup>Appendix A, paragraph 6.6 - *ibid*

Electricity output was projected at 1591 MWh and heat at 3,099 MWh annually<sup>5</sup>. Feedstock for the AD plant was estimated as a maximum 6000 tonnes per annum, split in a ratio 1:2 between poultry litter produced on the applicant's farm and maize sourced *entirely* from the applicant's farm. Part 23 of the application form signed by the applicant and dated 19 February 2010 stated that *"the maximum annual operational throughput in tonnes"* of the AD plant would be 6000 tonnes<sup>6</sup>.

Part of the applicant's supporting evidence for the construction of the AD plant was that net HGV movements to Heath Farm would in fact decrease slightly following the construction of the AD plant as no further gas deliveries would be required. However, additional tractor and trailer traffic movements in manure and digestate removal were stated as a projected 13.35 per month<sup>7</sup>.

A further planning permission (reference: N111652/N) was granted on 11 August 2011 ("the 2011 application"). The 2011 application was apparently made due to "due to cost and complications with the previous design" of the AD plant. Mr Philip Mann made the application for the applicants personally. In an email accompanying the application stamped as received by Hereford Council on 23 June 2011, he stated that:

*"All process operations will be the same as original plans approved and we just wish to vary site plans as attached<sup>8</sup>"*

As will become apparent, the second design appears to have resulted in a very considerable change in specification and operations.

### (c) Construction and operation of the AD plant

The applicant sourced the AD plant through Marches Biogas Limited (which also appears to trade under the name Evolution Biogas).

It would appear that the applicant ran into certain difficulties in constructing the AD plant; whether these were design related or due to poor construction is not entirely clear. These resulted in the re-design contained within the 2011 application. However, the specification and

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<sup>5</sup> Page 8, paragraph 4.3 - *ibid*

<sup>6</sup> Planning Application NW100359/N – Appendix B – Waste Disposal of Treatment Supplement Form – dated 19 February 2010

<sup>7</sup> Page 14, Table 6.1 – *Design and Access Statement – Proposed Development of an Agricultural Anaerobic Digester at Heath Farm Hopton Heath Shropshire* prepared by ADAS UK Ltd February 2010

<sup>8</sup> Email of Philip Mann received by Herefordshire Council 23 June 2011

capacities of the AD plant were supposedly unchanged. The Parish Council believe that the applicant has made material changes to the AD plant without obtaining planning permission.

In the first instance, the 2010 application specified a digestate tank of 1200m<sup>3</sup> capacity. Marches Biogas state in publicity material that the digestate capacity installed is 1800m<sup>3</sup>, an increase of 50%<sup>9</sup>.

There are considerable discrepancies in the amount of electricity actually generated by the AD plant compared to the figures provided to Herefordshire Council in the 2010 application. OFGEM figures show that the AD plant first started generating in February 2013 and the output figures since then are recorded in Tables 1 and 2. The actual commissioning of the plant was stated as 16 October 2012.

*Table 1 – Monthly production figures for the AD plant<sup>10</sup>*

<b>Period Beginning</b>	<b>Days in Month</b>	<b>Published Capacity (kW)</b>	<b>Potential Output (MWh)<sup>11</sup></b>	<b>Reported Output (MWh)</b>	<b>Capacity Factor (%)<sup>12</sup></b>	<b>Utilised Capacity (kW)<sup>13</sup></b>
1 February 2013	28	400	268.8	189	70.3125	281.25
1 March 2013	31	400	297.6	161	54.0995	216.40
1 April 2013	30	400	288	129	44.7917	179.17
1 May 2013	31	400	297.6	98	32.9301	131.72
1 June 2013	30	400	288	76	26.3889	105.56
1 July 2013	31	400	297.6	42	14.1129	56.45
1 August 2013	31	400	297.6	117	39.3145	157.26
1 September 2013	30	400	288	182	63.1944	252.78

<sup>9</sup> <http://www.evolutionbiogas.co.uk/case-study-bedstone-growers>

<sup>10</sup> OFGEM as collated by <https://www.variablepitch.co.uk/stations/2165/output/>.

<sup>11</sup> Potential Output = Days(Published Capacity x 24)/1000

<sup>12</sup> Capacity Factor is = (Reported Output/Potential Output) x 100

<sup>13</sup> Utilised capacity of AD plant = ((Reported Output x 1000)/Days)/24

1 October 2013	31	400	297.6	163	54.7715	219.09
1 November 2013	30	400	288	177	61.4583	245.83
1 December 2013	31	400	297.6	221	74.2608	297.04
1 January 2014	31	400	297.6	202	67.8763	271.51
1 February 2014	28	400	268.8	146	54.3155	217.26
1 March 2014	31	400	297.6	82	27.5538	110.22
1 April 2014	30	400	288	134	46.5278	186.11
1 May 2014	31	400	297.6	224	75.2688	301.08
1 June 2014	30	400	288	235	81.5972	326.39
1 July 2014	31	400	297.6	149	50.0672	200.27
1 August 2014	31	400	297.6	146	49.0591	196.24
1 September 2014	30	400	288	11	3.8194	15.28
1 March 2015	31	550	409.2	0	0	0.00
1 June 2015	30	550	396	207	52.2727	287.50
1 July 2015	31	550	409.2	269	65.738	361.56
1 August 2015	31	550	409.2	238	58.1623	319.89

1 September 2015	30	550	396	271	68.4343	376.39
1 October 2015	31	550	409.2	238	58.1623	319.89
1 January 2016	31	550	409.2	298	72.825	400.54
1 February 2016	29	550	382.8	239	62.4347	343.39
1 March 2016	31	550	409.2	220	53.7634	295.70
1 April 2016	30	550	396	238	60.101	330.56
1 May 2016	31	550	409.2	278	67.9374	373.66
1 June 2016	30	550	396	259	65.404	359.72
1 July 2016	31	550	409.2	979	239.2473	1315.86
1 October 2016	31	550	409.2	709	173.2649	952.96
1 December 2016	31	550	409.2	369	90.176	495.97
1 January 2017	31	550	409.2	378	92.3754	508.06
1 April 2017	30	550	396	337	85.101	468.06
1 May 2017	31	550	409.2	349	85.2884	469.09
1 June 2017	30	550	396	378	95.4545	525.00
1 July 2017	31	550	409.2	341	83.3333	458.33

Table 2 – Average and total annual production figures for the AD plant<sup>14</sup>

<b>Period</b>	<b>Days</b>	<b>Published Capacity (kW)</b>	<b>Potential Output (MWh)</b>	<b>Reported Output (MWh)</b>	<b>Capacity Factor (%)</b>	<b>Utilised Capacity (kW)</b>
Average of monthly production 2013	-	400	291.49	141.36	48.69	194.78
Total Annual production 2013	334	400	3206.4	1555	-	-
Average monthly production 2014	-	400	291.2	147.66	50.67	202.70
Annual production 2014	273	400	2620	1329	-	-
Average monthly production 2015	-	550	404.8	244.6	60.5	333.05
Annual production 2015	153	550	2428.8	1223	-	-
Average monthly production 2016	-	550	401.66	398.8	98.3	540.93
Annual production 2016	275 (337 if September and November	550	3630	3589	-	-

<sup>14</sup> Figures sourced OFGEM as collated by <https://www.variablepitch.co.uk/stations/2165/output/>. Further collation by Parish Council

	are included)					
Average monthly production 2017	-	550	403.92	356.6	88.3	485.71
Annual production 2017	153 (to end July 2017)	550	2428.8	2152	-	-

Assuming that the applicant was operating the permitted 250kW power plant, the maximum theoretical annual power output would be  $(250\text{kW} \times 24 \times 365)/1000 = 2190\text{MW}$ . It is of course extremely unlikely that a 24 hour/365 day operation could ever be achieved.

It should be noted that the published capacity of the AD plant from February 2013 to September 2014 was stated as 400kW, not 250kW as submitted to Herefordshire Council. The applicant obviously found it difficult to approach this level of output, peaking at 326.39 kW of utilised capacity in June 2014. In some months the output of the AD plant was far lower than this.

At some point in September 2014, it is clear that the applicant either took a conscious decision to shut down the AD plant or that there was some occurrence that precipitated a necessity to shut it down. Whether through commercial expediency or the need for repairs, the AD plant did not again produce commercial electricity until June 2015. At this point the published output of the AD plant as recorded by OFGEM had risen from 400 kW to 550kW, a potential capacity more than twice that submitted to Herefordshire Council in the 2010 application.

In July and October 2016, the AD plant recorded huge spikes in production, so it is conceivable that the 550kW published capacity is a significant underestimate of the AD plant's true production capabilities. Even excluding those two months as anomalous, the average utilised capacity of the AD plant for December 2016 to July 2017 was 487.42kW.

The published output capacity is confirmed in publicity material released by Marches Biogas<sup>15</sup>. This states:

<sup>15</sup> <http://www.evolutionbiogas.co.uk/case-study-bedstone-growers>

*“Originally the plant was designed to produce 250kWe but has more than doubled this output with additional CHP capacity added in 2015 bringing the total electrical output to 550kWe, while the operational volume of the digester has remained the same.*

*In 2015 Marches Biogas Ltd also installed a belt dryer to dry wood chip utilising the heat from one of the CHPs”*

A direct quote from the applicant in the same Marches Biogas publicity statement states:

*“Marches Biogas has provided a reliable and effectively designed plant which has allowed the project to expand. We continue to be supported through Evolution Biogas and are very happy with the delivery of service which maintains the efficiency of electrical output in excess of 90%.”*

It is therefore submitted that the applicant’s increase in the potential electrical output of the AD plant is confirmed from two different sources. Taking into account the need for periodic equipment breakdowns and servicing of the CHP unit, it would appear that the AD plant does indeed have a true output of 550 kW or higher.

#### (d) Feedstocks

In the 2010 application the applicant stated that the AD plant feedstocks would comprise a maximum of 6,000 tonnes of feedstock, 2000 tonnes, of which would be poultry litter from the applicant’s exiting broiler units at Heath Farm, with another 4,000 tonnes of maize grown on the applicant’s farm<sup>16</sup>. Due to the high ammonia content within chicken litter, it is necessary to dilute chicken litter with maize or another relatively clean energy crop substitute to ensure the anaerobic process can take place. It is technically possible to scrub ammonia from chicken litter to allow a greater proportion of chicken litter to be used in the feedstock mix, but such technology is either still in the testing phase or produces potentially hazardous chemical by-products. It should be noted in passing that the applicant’s 1:2 ratio of chicken litter to maize is in fact considered high, a 1:4 or 1:5 ratio is considered more normal for effective anaerobic digestion<sup>17</sup>, but for these purposes, the applicant’s chicken litter/clean feedstock ratios are being used.

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<sup>16</sup> Planning Application NW100359/N – Appendix B – Waste Disposal of Treatment Supplement Form – dated 19 February 2010 and Page 3, Paragraph 3.3 – *Design and Access Statement – Proposed Development of an Agricultural Anaerobic Digester at Heath Farm Hopton Heath Shropshire* prepared by ADAS UK Ltd February 2010

<sup>17</sup> <http://www.endswasteandbioenergy.com/article/1400018/europes-first-100-poultry-litter-powered-biogas-plant-announced>, <http://www.fwi.co.uk/business/ad-uses-on-farm-sources-of-maize-silage-and-chicken-litter.htm>

Numerous studies have been carried out on the anaerobic energy production possibilities of both maize and chicken litter. These are obviously highly dependent on moisture content and other factors. However standard maize has an energy creation potential of roughly 58.1m<sup>3</sup> of methane (CH<sub>4</sub>) per tonne. Chicken litter generally has a higher energy content and yields roughly 100m<sup>3</sup> of methane per tonne. A m<sup>3</sup> of methane has a calorific value of 36MJ or 10kWh of energy<sup>18</sup>.

Electricity generation from CHP units varies between 30 and 35% efficiency. Assuming the applicant is truly using 6,000 tonnes p.a. of feedstock input in the ratios stated it is possible to calculate roughly the amount of potential energy released and the maximum capacity of the anaerobic digester.

- $(2000 \text{ tonnes} \times 100\text{m}^3) + (4000 \text{ tonnes} \times 58.1 \text{ m}^3) = 432400\text{m}^3$  methane produced per annum
- $432400\text{m}^3 \times 10\text{kWh} = 4324000 \text{ kWh}$  produced per annum
- $4324000 \text{ kWh} \times 35\% = 1513400 \text{ kWh}$  in electrical energy produced per annum from CHP unit
- $1513400 \text{ kWh} / (365 \times 24) = 172\text{kW}$  theoretical total electrical production capacity

Please note that the above does not take into account possible energy lost due to poor efficiency in the anaerobic reaction. It is therefore considered extremely unlikely that the applicant could have operated even a 250kW AD plant at full capacity with only 6000 tonnes of feedstock.

As discussed in Appendix C, the applicant's annual poultry litter production is estimated at 5310 tonnes from his existing unit and 3888 tonnes from the application site<sup>19</sup>. Tables 3 and 4 examine the monthly and annualised outputs of the AD plant and the necessary inputs required.

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<sup>18</sup> *Anaerobic digestion and energy*, Charles Banks, University of Southampton  
[http://www.valorgas.soton.ac.uk/Pub\\_docs/JyU%20SS%202011/CB%204.pdf](http://www.valorgas.soton.ac.uk/Pub_docs/JyU%20SS%202011/CB%204.pdf)

<sup>19</sup> DEFRA advisory leaflet PB 14050. 1.5 tonnes excreted per 1000 birds per month. Existing site houses 295,000 birds. Application site is supposed to house 216,000 birds.

Table 3 – Monthly Feedstock Requirements for the AD Plant

<b>Period Beginning</b>	<b>Reported Electricity Output (kWh)</b>	<b>Total Energy Output (kWh)</b>	<b>Total Methane Output (m3)</b>	<b>Total Feedstock Required (tonnes)<sup>20</sup></b>	<b>Chicken Litter Required in 1:2 ratio (tonnes)</b>	<b>Maize Required in 1:2 ratio (tonnes)</b>
1 February 2013	189000	540000.00	54000.00	749.38	249.79	499.58
1 March 2013	161000	460000.00	46000.00	638.36	212.79	425.57
1 April 2013	129000	368571.43	36857.14	511.48	170.49	340.98
1 May 2013	98000	280000.00	28000.00	388.57	129.52	259.04
1 June 2013	76000	217142.86	21714.29	301.34	100.45	200.89
1 July 2013	42000	120000.00	12000.00	166.53	55.51	111.02
1 August 2013	117000	334285.71	33428.57	463.90	154.63	309.26
1 September 2013	182000	520000.00	52000.00	721.62	240.54	481.08
1 October 2013	163000	465714.29	46571.43	646.29	215.43	430.85
1 November 2013	177000	505714.29	50571.43	701.80	233.93	467.86
1 December 2013	221000	631428.57	63142.86	876.25	292.08	584.16
1 January 2014	202000	577142.86	57714.29	800.92	266.97	533.94
1 February 2014	146000	417142.86	41714.29	578.88	192.96	385.92
1 March 2014	82000	234285.71	23428.57	325.13	108.38	216.75
1 April 2014	134000	382857.14	38285.71	531.30	177.10	354.20
1 May 2014	224000	640000.00	64000.00	888.15	296.05	592.09
1 June 2014	235000	671428.57	67142.86	931.76	310.59	621.17
1 July 2014	149000	425714.29	42571.43	590.78	196.93	393.85
1 August 2014	146000	417142.86	41714.29	578.88	192.96	385.92
1 September 2014	11000	31428.57	3142.86	43.61	14.54	29.08

<sup>20</sup> based on potential methane production of 76.06m3 per tonne of blended litter/maize feedstock at 1:2 ratio

1 March 2015	0	0.00	0.00	0.00	0.00	0.00
1 June 2015	207000	591428.57	59142.86	820.74	273.58	547.16
1 July 2015	269000	768571.43	76857.14	1066.57	355.52	711.04
1 August 2015	238000	680000.00	68000.00	943.66	314.55	629.10
1 September 2015	271000	774285.71	77428.57	1074.50	358.17	716.33
1 October 2015	238000	680000.00	68000.00	943.66	314.55	629.10
1 January 2016	298000	851428.57	85142.86	1181.56	393.85	787.70
1 February 2016	239000	682857.14	68285.71	947.62	315.87	631.74
1 March 2016	220000	628571.43	62857.14	872.29	290.76	581.52
1 April 2016	238000	680000.00	68000.00	943.66	314.55	629.10
1 May 2016	278000	794285.71	79428.57	1102.26	367.42	734.83
1 June 2016	259000	740000.00	74000.00	1026.92	342.31	684.61
1 July 2016	979000	2797142.86	279714.29	3881.69	1293.89	2587.76
1 October 2016	709000	2025714.29	202571.43	2811.15	937.05	1874.08
1 December 2016	369000	1054285.71	105428.57	1463.07	487.69	975.37
1 January 2017	378000	1080000.00	108000.00	1498.75	499.58	999.16
1 April 2017	337000	962857.14	96285.71	1336.19	445.40	890.78
1 May 2017	349000	997142.86	99714.29	1383.77	461.26	922.50
1 June 2017	378000	1080000.00	108000.00	1498.75	499.58	999.16
1 July 2017	341000	974285.71	97428.57	1352.05	450.68	901.36

Table 4 - Annual Feedstock Requirements for the AD Plant

Period	Reported Electricity Output (kWh)	Total Energy Output (kWh)	Total Methane Output (m3)	Total Feedstock Required (tonnes)	Chicken Litter Required in 1:2 ratio (tonnes)	Maize Required in 1:2 ratio (tonnes)
2013	1555000	4442857.14	444285.71	6165.50	2055.16	4110.29
2014	1329000	3797142.86	379714.29	5269.42	1756.47	3512.91
2015	1223000	3494285.71	349428.57	4849.13	1616.38	3232.72
2016	3589000	10254285.71	1025428.57	14230.20	4743.40	9486.71
2017 to date	1783000	5094285.71	509428.57	7069.51	2356.50	4712.96
2017 projected*	4297200	12226285.00	1222628.50	16966.80	5655.60	11311.08

\*based on average monthly figures to end July 2017

It will be noted that in 2013, the first year of operation, the electrical outputs of the AD plant do suggest that the applicant did indeed use only slightly in excess of 6000 tonnes of feedstock. In 2013 and 2014, the reduced output from the AD plant would have meant a corresponding reduction in feedstock.

2017 is the first year that the applicant has been able to house 295,000 birds at Heath Farm. It will be noted that the projected requirement for 5655 tonnes of poultry litter feedstock is extremely close to the 5310 tonnes of projected poultry litter waste that DEFRA assess would be produced per annum by a broiler flock of this size<sup>21</sup>.

In the application, the applicant states that the size of its farmed area is 701 acres<sup>22</sup>, though it is believed the applicant's owned acreage is c.550 acres with the remainder being rented in specifically to plant maize. The figure of 560 acres corresponds with the figure supplied to Herefordshire Council in the 2010 application, in which the applicant stated that all transport movements would take place "within [the] farm boundary". The 2010 "farm" was plainly a considerably different beast to that of 2017.

<sup>21</sup> DEFRA advisory leaflet PB 14050

<sup>22</sup> Environmental Statement page 7, Paragraph 3.1

It should be noted that a significant proportion of the applicant's owned land is pasture and only 85% of the arable area may be planted with maize in any one year to claim Basic Payment Scheme subsidies. The average UK maize crop yield is roughly 16 tonnes per acre<sup>23</sup>.

In 2013, the applicant would have only needed 251 acres of maize cropping to fulfil its feedstock needs, which would have been achievable from within his owned acreage. In 2016, the applicant needed 595 acres. However, if the applicant maintains its current monthly electricity production average achieved thus far in 2017, the applicant needs 706 acres of maize cropping. It is not surprising that local residents have noted an increase in traffic, especially this Autumn (2017).

It will be appreciated that if, as the applicant states, the chicken litter from the application site will be fed into the AD plant in its entirety, an additional 7776 tonnes (486 acres) of maize will be required to balance the feedstock mix. If true, it is a tacit admission by the applicant that it believes that the AD plant has considerable untapped potential. In any event, it is quite clear that in 2016 and 2017 to date, the quantities of AD feedstock being consumed by the AD plant are now far in excess of those proposed by the applicant in the 2010.

#### (e) Economic consequences of intensified AD plant operation

In preparing this submission, it has become apparent that the applicant's poultry operations are, while a significant portion of its business, are not the primary focus or revenue generator. Indeed, it has become apparent that the applicant's business model is not that of an AD plant supporting agricultural operations, but the reverse.

In the 2010 application, Marches Biogas stated that the applicant could expect to yield between £170 and £185 per MWh of electricity produced. Because of the applicant's continued expansion in generation capacity, it is not possible estimate the current income per MWh produced, as additional capacity brought on line at a later date should only qualify for lower incentives. However, it is probable that the applicant is gaining more than £50,000 income per month from electricity generation alone. Income from heat substitution, RHI payments and commercial by-products, such as digestate and wood-chip drying, would add to this considerably.

The woodchip drying facility is presumably designed to be used in conjunction with biomass boilers. It is not known whether the applicant has such boilers in use at Heath Farm, but no

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<sup>23</sup> How Much Maize Have I Got? Agronomy Technical Note - Maize Growers Association May 2014. [www.maizegrowersassociation.co.uk/system/files/resources/how-much-maize-have-i-got\\_1.pdf](http://www.maizegrowersassociation.co.uk/system/files/resources/how-much-maize-have-i-got_1.pdf) and Runaway Maize: Subsidised Soil Destruction Soil Association June 2015, <https://www.soilassociation.org/media/4671/runaway-maize-june-2015.pdf>

planning permission appears to have been received to install them. The application site does include a proposed biomass boiler facility but is unclear how the applicant use the current output of the woodchip drying facility or earns a commercial rate of return on the capital required to install it. In the absence of large scale biomass boilers, the only logical use for dry woodchips would be for sale to third parties. This represents a further income stream for the applicant.

It should therefore be considered that the applicant will have profited considerably by operating the AD plant in excess of its original permitted capacity and is continuing to do so. Further intensifying AD plant operations will only enhance the applicant's rate of return.

#### (f) Environmental consequences of intensified AD plant operations

The production of renewable energy should of course be encouraged, and there is no question that anaerobic digestion can be an important part of the UK energy generation mix. However, the operation of an AD plant of necessity requires feedstock inputs and produces potentially hazardous gas and digestate. Inputs and outputs will increase in direct proportion to the power being produced by the plant. Further corollaries to intensified AD plant operation include increases in the amount of plant noise, transport movements, emissions and pollution risk.

The AD plant is sited next to a stream that drains into directly into the River Clun Special Area of Control at Grid Reference SO 39422 75015, one of the most sensitive locations within the SAC. It is understood that bunding and flood protection measures were specified in the 2010 application and, it is hoped, these were duly constructed. However, were the specified measures sufficient to deal with serious risks posed by a rupture of an enlarged 1,800m<sup>3</sup> digestate tank? It should be noted that there have been a number of high profile failures of such installations<sup>24</sup> which almost invariably lead to undiluted digestate discharges into local watercourses. Any discharge into the stream would have an immediate catastrophic effect on the pearl mussel population.

It should be noted that a full Environmental Impact Assessment ("EIA") was deemed unnecessary by Herefordshire Council's planning officers at the time of the 2010 application and no Habitats Regulations Assessment was carried out. While it is conceded that the 2010

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<sup>24</sup> <http://www.fwi.co.uk/business/harper-leak-involved-8m-litre-waste-tank.htm> (Harper Adams 2013 leak)  
<http://www.fwi.co.uk/news/ad-plant-collapses-at-harper-adams.htm> (Harper Adams 2014 leak)  
<https://www.gov.uk/government/news/anaerobic-digestion-plant-to-pay-20000-> (Trinity Hall Biogas - 2013 leak)

application was indeed submitted in February 2010, prior to the The Conservation of Habitats and Species Regulations 2010 coming into force on 1 April 2010, Herefordshire Council were under an obligation to assess the impact on the SAC before giving consent under regulations 61 and 62. Indeed, even after the issue of planning, regulation 63 requires local authorities to assess past decisions to either “affirm, modify or revoke it.”

In the absence of a full EIA or HRA there is therefore no way of knowing the full impact on the surrounding environment of emissions from the CHP plant and digestate ammonia emissions from the AD plant as originally designed. Intensified operations will have added to those emissions.

It should also be noted that there are two residential dwellings sited at Heath Farm in very close proximity to the AD plant with temporary worker accommodation. The absence of an EIA of any form means that the risks to human health cannot be accurately assessed.

A rupture or explosion in the expanded digestate tank would also pose a risk to the operations of the adjacent Heart of Wales railway line. The size increase in the AD plant would therefore be of decided interest to Network Rail.

### (g) Planning law consequences of intensified AD plant operations

AD plants are now relatively common in the UK. For the most part smaller AD plants, such as that operated by the applicant, operate under the same Environment Agency permitting rules. The Applicant’s current EA permit EPR/FB3436RJ allows the applicant to process 75,000 tonnes of feedstock per annum. It notes that “all activities must be carried out on premises used for Agriculture”<sup>25</sup>, and it adopts the definition of agriculture used by the Agriculture Act 1947<sup>26</sup>.

Not all AD plants operating in the UK are sited on farms. There are a number that import and process commercial food waste or finings from manufacturing processes. Unsurprisingly, these are considered “industrial” AD plants and they tend to be sited alongside factories or other pockets of industrial development which have infrastructure appropriate to service the plants. The permitting scheme covering these AD plants is rigorous.

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<sup>25</sup> The Environmental Permitting (England and Wales) Regulations 2010 - Standard rules SR2010No16, Table 2.1

<sup>26</sup> Section 3 – “Agriculture includes horticulture, fruit growing, seed growing, dairy farming and livestock breeding and keeping, the use of land as grazing land, meadow land, osier land, market gardens and nursery grounds, and the use of land for woodlands where that use is ancillary to the farming of the land for other agricultural purposes, and ‘agricultural’ shall be constructed accordingly”

The applicant's AD plant, however, started life as an "Agricultural Biodigester to process poultry litter (manure) and energy crops for energy"<sup>27</sup>. It is submitted that the term "agricultural" in the 2010 planning application and the phrase "premises used for agriculture" used in the Environmental permit together limit the use of the land on which the AD plant sits to agricultural uses only. The production and burning of bio-gas for electricity generation is not in itself an agricultural use; it is considered a sui-generis industrial use. An AD plant can only be considered "agricultural" if its construction and operations are ancillary to the agricultural purpose of the farm on which is site.

This point was considered in the recent Crouchland Farms planning appeal decision which dealt with an appeal by an AD plant operator against refusal of a lawful development certificate to cover various AD plant related installations, but also for intensified operations of the AD plant<sup>28</sup>. These included sourcing feedstock materials from outside the original boundaries of the farm, the appellant having deliberately rented in additional land to plant energy crops. The inspector noted:

*"Under the current planning permissions, any feedstock for the facility would therefore need to be drawn from the farm and the importation of other material is not authorised and will not be granted a LDC"<sup>29</sup>.*

It should be noted that in the case of the applicant, not only has it increased its initial area from which it sources feedstock material, both in terms of land farmed and, possibly, by taking third party manures, but it has also made material alterations to the original design of the AD plant, all without planning permission.

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<sup>27</sup> Planning Application NW100359/N – Appendix B – Waste Disposal of Treatment Supplement Form – dated 19 February 2010

<sup>28</sup> Appeal Ref: APP/P3800/X/15/3137735: Crouchland Farm, Rickman's Lane, Kirdford, Billingshurst, West Sussex RH14 0LE

<sup>29</sup> Paragraph 56 - ibid

APPENDICES C AND D - ANNEX OF SOURCE MATERIAL

Page	Source Document	Excerpted or full
1	Planning Application NW100359/N – Application Form	Full
7	Planning Application NW100359/N – Appendix B – Waste Disposal of Treatment Supplement Form	Full
13	<i>Design and Access Statement – Proposed Development of an Agricultural Anaerobic Digester at Heath Farm Hopton Heath Shropshire</i> prepared by ADAS UK Ltd February 2010	Excerpted
24	Planning Application N/111652/N – Application Form	Full
30	Email of Philip Mann received by Herefordshire Council 23 June 2011 as supporting documentation for Planning Application N/111652/N	Full
32	Case Study – Bedstone Growers - <a href="http://www.evolutionbiogas.co.uk/case-study-bedstone-growers">http://www.evolutionbiogas.co.uk/case-study-bedstone-growers</a> (as at 17 October 2017)	Full
34	Anaerobic digestion and energy, Charles Banks, University of Southampton <a href="http://www.valorgas.soton.ac.uk/Pub_docs/JyU%20SS%202011/CB%2004.pdf">http://www.valorgas.soton.ac.uk/Pub_docs/JyU%20SS%202011/CB%2004.pdf</a>	Excerpted
40	DEFRA advisory leaflet PB 14050 – Guidance for complying with the rules on Nitrate Vulnerable Zones in England for 2013-2016 (still the current reference work)	Excerpted
43	<i>A guide to small-scale wood fuel (biomass) heating systems</i> , Wood Fuel South West Advice Service and Forestry Commission <a href="https://www.cse.org.uk/pdf/guide%20to%20small-scale%20wood-fuelled%20heating.pdf">https://www.cse.org.uk/pdf/guide%20to%20small-scale%20wood-fuelled%20heating.pdf</a>	Excerpted
46	Appeal Ref: APP/P3800/X/15/3137735: Crouchland Farm, Rickman's Lane, Kirdford, Billingshurst, West Sussex RH14 0LE	Full
63	<i>Special Studies in Agricultural Economics No 59: The Structure and Economics of Broiler Production in England</i> , Andrew Sheppard, University of Exeter Centre for Rural Research June 2004	Excerpted

Application for Planning Permission.  
Town and County Planning Act 1990

**Publication of applications on planning authority websites.**

Please note that the information provided on this application form and in supporting documents may be published on the Authority's website.  
If you require any further clarification, please contact the Authority's planning department.

**1. Applicant Name, Address and Contact Details**

Title:  First name:  Surname:

Company name:

Street address:

Town/City:

County:

Country:

Postcode:

Telephone number:  Country Code:  National Number:  Extension Number:

Mobile number:  National Number:  Extension Number:

Fax number:  National Number:  Extension Number:

Email address:

Are you an agent acting on behalf of the applicant?  Yes  No

**2. Agent Name, Address and Contact Details**

Title:  First Name:  Surname:

Company name:

Street address:

Town/City:

County:

Country:

Postcode:

Telephone number:  Country Code:  National Number:  Extension Number:

Mobile number:  National Number:  Extension Number:

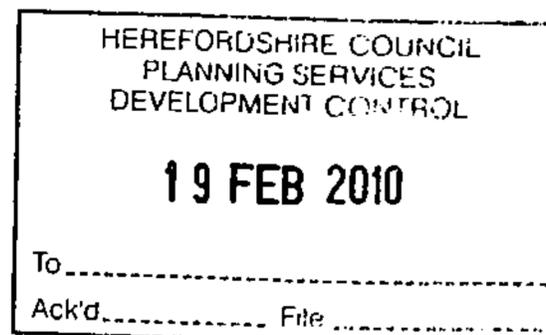
Fax number:  National Number:  Extension Number:

Email address:

**3. Description of the Proposal**

Please describe the proposed development including any change of use:

Has the building, work or change of use already started?  Yes  No



#### 4. Site Address Details

Full postal address of the site (including full postcode where available)

Description:

House:	<input type="text"/>	Suffix:	<input type="text"/>
House name:	HEATH FARM		
Street address:	<input type="text"/>		
	Hopton Heath		
Town/City:	CRAVEN ARMS		
County:	Shropshire		
Postcode:	SY7 0QB		

Description of location or a grid reference  
(must be completed if postcode is not known):

Easting:	337769
Northing:	276620

#### 5. Pre-application Advice

Has assistance or prior advice been sought from the local authority about this application?

Yes  No

If Yes, please complete the following information about the advice you were given (this will help the authority to deal with this application more efficiently):

Officer name:

Title:	Mrs	First name:	Deborah	Surname:	Klein
--------	-----	-------------	---------	----------	-------

Reference:	2009/ENQ/0374
------------	---------------

Date (DD/MM/YYYY):	30/03/2009	(Must be pre-application submission)
--------------------	------------	--------------------------------------

Details of the pre-application advice received:

Waste application for the attention of Mrs Deborah Klein.  
Full EIA is not required.  
Following topics to be covered:  
Engineered construction quality assurance scheme  
Details of pollution prevention measures to protect ground and surface waters  
Details of a leak detector system and provisions to monitor groundwater above and below the tank site  
Efficiency assessment  
Flood Risk Assessment  
Air quality/odour nuisance assessment  
Noise assessment  
Visual impact/Landscape assessment and any proposed screening or mitigation measures  
Ecological assessment  
Archaeological assessment

#### 6. Pedestrian and Vehicle Access, Roads and Rights of Way

Is a new or altered vehicle access proposed to or from the public highway?

Yes  No

Is a new or altered pedestrian access proposed to or from the public highway?

Yes  No

Are there any new public roads to be provided within the site?

Yes  No

Are there any new public rights of way to be provided within or adjacent to the site?

Yes  No

Do the proposals require any diversions/extinguishments and/or creation of rights of way?

Yes  No

#### 7. Waste Storage and Collection

Do the plans incorporate areas to store and aid the collection of waste?

Yes  No

If Yes, please provide details:

Solid digestate, which is typically similar in texture and stability to matured compost will gravitate into a stockpile below the press, or directly into a trailer or other containment vessel placed underneath the press. A pad will be provided for the storage of solid digestate. The liquid fraction will be either pumped back into the digester to regulate the moisture content or into a separate liquid digestate storage tank as required.

Have arrangements been made for the separate storage and collection of recyclable waste?

Yes  No

If Yes, please provide details:

Digestate will be applied to the applicant's own land as an agricultural fertiliser and soil improver. No other waste is produced.

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19 FEB 2010

To: \_\_\_\_\_  
Ack'd: \_\_\_\_\_

### 8. Neighbour and Community Consultation

Have you consulted your neighbours or the local community about the proposal?

Yes  No

If Yes, please provide details:

Consulted neighbours and local parish council.

### 9. Authority Employee/Member

With respect to the Authority, I am:

- (a) a member of staff
- (b) an elected member
- (c) related to a member of staff
- (d) related to an elected member

Do any of these statements apply to you?

Yes  No

### 10. Materials

Please state what materials (including type, colour and name) are to be used externally (if applicable):

#### Walls - description:

Description of *existing* materials and finishes:

N/A

Description of *proposed* materials and finishes:

Building wall - juniper green box profile tin clad (to match existing poultry units).  
Liquid storage - juniper green coated metal  
Feedstock clamps - concrete  
Digester - concrete

#### Roof - description:

Description of *existing* materials and finishes:

N/A

Description of *proposed* materials and finishes:

Building roof - slate blue box profile tin (colour to match existing poultry units).

Are you supplying additional information on submitted plan(s)/drawing(s)/design and access statement?  Yes  No

If Yes, please state references for the plan(s)/drawing(s)/design and access statement:

Design and Access Statement

### 11. Vehicle Parking

Please provide information on the existing and proposed number of on-site parking spaces:

Type of vehicle	Existing number of spaces	Total proposed (including spaces retained)	Difference in spaces
Cars	0	0	0
Light goods vehicles/public carrier vehicles	0	0	0
Motorcycles	0	0	0
Disability spaces	0	0	0
Cycle spaces	0	0	0
Other (e.g. Bus)	0	0	0
Short description of Other			

### 12. Foul Sewage

Please state how foul sewage is to be disposed of:

Mains sewer  Package treatment plant  Unknown   
Septic tank  Cess pit

Other

N/A

Are you proposing to connect to the existing drainage system?

Yes  No  Unknown

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To \_\_\_\_\_  
Ack'd \_\_\_\_\_ File \_\_\_\_\_

### 13. Assessment of Flood Risk

Is the site within an area at risk of flooding? (Refer to the Environment Agency's Flood Map showing flood zones 2 and 3 and consult Environment Agency standing advice and your local planning authority requirements for information as necessary.)  Yes  No

If Yes, you will need to submit an appropriate flood risk assessment to consider the risk to the proposed site.

Is your proposal within 20 metres of a watercourse (e.g. river, stream or beck)?  Yes  No

Will the proposal increase the flood risk elsewhere?  Yes  No

How will surface water be disposed of?

- Sustainable drainage system  Main sewer  Pond/lake  
 Soakaway  Existing watercourse

### 14. Biodiversity and Geological Conservation

To assist in answering the following questions refer to the guidance notes for further information on when there is a reasonable likelihood that any important biodiversity or geological conservation features may be present or nearby and whether they are likely to be affected by your proposals.

Having referred to the guidance notes, is there a reasonable likelihood of the following being affected adversely or conserved and enhanced within the application site, OR on land adjacent to or near the application site:

a) Protected and priority species

Yes, on the development site  Yes, on land adjacent to or near the proposed development  No

b) Designated sites, important habitats or other biodiversity features

Yes, on the development site  Yes, on land adjacent to or near the proposed development  No

c) Features of geological conservation importance

Yes, on the development site  Yes, on land adjacent to or near the proposed development  No

### 15. Existing Use

Please describe the current use of the site:

Grassland

Is the site currently vacant?  Yes  No

Does the proposal involve any of the following:

Land which is known to be contaminated?  Yes  No

Land where contamination is suspected for all or part of the site?  Yes  No

A proposed use that would be particularly vulnerable to the presence of contamination?  Yes  No

#### Application advice

If you have said Yes to any of the above, you will need to submit an appropriate contamination assessment.

### 16. Trees and Hedges

Are there trees or hedges on the proposed development site?  Yes  No

And/or: Are there trees or hedges on land adjacent to the proposed development site that could influence the development or might be important as part of the local landscape character?  Yes  No

If Yes to either or both of the above, you will need to provide a full Tree Survey with accompanying plan before your application can be determined. Your Local Planning Authority should make clear on its website what the survey should contain, in accordance with the current 'BS5837: Trees in relation to construction - Recommendations'

### 17. Trade Effluent

Does the proposal involve the need to dispose of trade effluents or waste?  Yes  No

### 18. Residential Units

Does your proposal include the gain or loss of residential units?  Yes  No

### 19. All Types of Development: Non-residential Floorspace

Does your proposal involve the loss, gain or change of use of non-residential floorspace?

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 Yes  No

Use class/type of use	Existing gross internal floorspace (square metres)	Gross internal floorspace to be lost by change of use or demolition (square metres)	Total gross new internal floorspace proposed (including changes of use) (square metres)	Net additional gross internal floorspace following development (square metres)

**19. All Types of Development: Non-residential Floorspace (continued)**

B2	General industrial			322.0	322.0
	Total	0.0	0.0	322.0	322.0

For hotels, residential institutions and hostels, please additionally indicate the loss or gain of rooms:

Use Class	Types of use	Existing rooms to be lost by change of use or demolition	Total rooms proposed (including changes of use)	Net additional rooms
-----------	--------------	--	---	----------------------

**20. Employment**

If known, please complete the following information regarding employees:

	Full-time	Part-time	Equivalent number of full-time
Existing employees	0	0	0
Proposed employees	4	4	6

**21. Hours of Opening**

If known, please state the hours of opening for each non-residential use proposed:

Use	Monday to Friday		Saturday		Sunday and Bank Holidays		Not Known
	Start Time	End Time	Start Time	End Time	Start Time	End Time	
B2	0.00	24.00	0.00	24.00	0.00	24.00	<input type="checkbox"/>

**22. Site Area**

What is the site area?  hectares

**23. Industrial or Commercial Processes and Machinery**

Please describe the activities and processes which would be carried out on the site and the end products including plant, ventilation or air conditioning. Please include the type of machinery which may be installed on site:

Feedstock in the form of chicken litter from the poultry houses and energy crops grown on the applicant's farm will be tipped into the digester, which comprises a below ground storage tank. The biogas will be fed into a boiler and combined heat and power (CHP) unit to generate heat and electricity. On completion of the digestion process and extraction of the full gas yield, the feedstock will be reduced to a slurry, known as digestate. Digestate will be pumped from the digester to a mechanical press which separates the slurry into a solid and liquid fraction. Full details are contained within the Design and Access Statement.

Is the proposal for a waste management development?  Yes  No

Please complete the following table:

	The total capacity of the void in cubic metres, including engineering surcharge and making no allowance for cover or restoration material (or tonnes if solid waste or litres if liquid waste)	Maximum annual operational throughput in tonnes (or litres if liquid waste)
Anaerobic digestion		6,000

Please give maximum annual operational throughput of the following waste streams:

Municipal	0
Construction, demolition and excavation	0
Commercial and Industrial	0
Hazardous	0

If this is a landfill application you will need to provide further information before your application can be determined. Your waste planning authority should make clear what information it requires on its website.

**24. Hazardous Substances**

Is any hazardous waste involved in the proposal?  Yes  No

**A. Toxic substances**

Amount held on site

A. Select Value  HEREFOORDSHIRE COUNCIL  Tonne(s)

**B. Highly reactive/explosive substances**

Amount held on site

B. Select Value  PLANNING SERVICES  Tonne(s)

19 FEB 2010

**C. Flammable substances (unless specifically named in parts A and B)**

Amount held on site

68. Gas or any mixture of gases which is flammable in air, when held as a gas  To:  0.16 Tonne(s)

Ack'd:  File:

C. Select Value   Tonne(s)

**25. Site Visit**

Can the site be seen from a public road, public footpath, bridleway or other public land?  Yes  No

If the planning authority needs to make an appointment to carry out a site visit, whom should they contact? (Please select only one)

The agent  The applicant  Other person

**26. Certificates (Certificate A)**

**Certificate of Ownership - Certificate A**

**Town and Country Planning (General Development Procedure) Order 1995 Certificate under Article 7**

I certify/The applicant certifies that on the day 21 days before the date of this application nobody except myself/ the applicant was the owner (owner is a person with a freehold interest or leasehold interest with at least 7 years left to run) of any part of the land or building to which the application relates.

Title:  First name:  Surname:

Person role:  Declaration date:   Declaration made

**26. Certificates (Agricultural Holdings Certificate)**

**Agricultural Holding Certificate**

**Town and Country Planning (General Development Procedure) Order 1995 Certificate under Article 7**

Agricultural Land Declaration - You Must Select Either A or B

(A) None of the land to which the application relates is, or is part of an agricultural holding.

(B) I have/The applicant has given the requisite notice to every person other than myself/the applicant who, on the day 21 days before the date of this application, was a tenant of an agricultural holding on all or part of the land to which this application relates, as listed below:

Title:  First Name:  Surname:

Person role:  Declaration date:   Declaration Made

**27. Declaration**

I/we hereby apply for planning permission/consent as described in this form and the accompanying plans/drawings and additional information.

Date

HEREFORDSHIRE COUNCIL  
PLANNING SERVICES  
DEVELOPMENT CONTROL  
**19 FEB 2010**  
To.....  
Ack'd..... File.....

Appendix B – Waste Disposal or Treatment Supplement Form

**WASTE DISPOSAL OR TREATMENT**

SUPPLEMENT TO A PLANNING APPLICATION

PLEASE READ ACCOMPANYING GUIDANCE NOTES BEFORE COMPLETING THIS FORM

\*Indicates where further clarification or plans are likely to be needed in a supporting statement



HEREFORDSHIRE COUNCIL

4 Types of waste

Please answer question 1, and then all the questions that apply to your proposal.

(please tick boxes and delete as necessary)

1 Identifying details to link to your planning application

Applicant's name	MS & JE Mann & Son, Bedstone Growers
Agent's name	Ray Williams
Operator's name	MS & JE Mann & Son Bedstone Growers
Site address inc postcode	Heath Farm, Hopton Heath Craven Arms, Shropshire SY7 0QB

Brief description of proposal

Agricultural anaerobic digester  
to process poultry litter (manure)  
and energy crops for energy

Type of application (please tick as applicable)

Full planning Permission	<input checked="" type="checkbox"/>	Retrospective application	<input type="checkbox"/>
Variation or discharge of condition	<input type="checkbox"/>	Continued use without compliance with condition	<input type="checkbox"/>

2 OS Grid Reference

either at the centre of or the access to the site

SO 377 766 (6 or 8 digit)

3 Nature of application

(please tick as appropriate)

Development of a new site

Development on an existing site

Extension of an existing site

Associated or ancillary operations, e.g. construction of buildings, plant, other structures, or hardstandings

Renewal of expiring permission that has not been commenced

Other (give details)

no	type	<input type="checkbox"/>
1	Waste water / Domestic / agricultural sewage / slurry / other wet waste / water treatment, storage / processing	<input type="checkbox"/>
2	Manure/slurry:- poultry + pig + cattle + horses + other (indicate)	<input checked="" type="checkbox"/>
3	Animal / veterinary / abattoir waste / poultry unit waste (other than faeces or manure)	<input type="checkbox"/>
4	Municipal / Household general waste	<input type="checkbox"/>
5	Commercial waste	<input type="checkbox"/>
6	Metal waste / scrap / tyres / vehicles / other metals ( please specify)	<input type="checkbox"/>
7	Clinical waste	<input type="checkbox"/>
8	Construction / building / demolition waste / rubble / soil / subsoil	<input type="checkbox"/>
9	Chemical waste / paints / solvents	<input type="checkbox"/>
10	Paper / card / packaging waste	<input type="checkbox"/>
11	Plastic waste	<input type="checkbox"/>
12	Glass waste	<input type="checkbox"/>
13	Green waste / wood / woody materials / biomass	<input type="checkbox"/>
14	Oil and related waste	<input type="checkbox"/>
15	Special Wastes*	<input type="checkbox"/> *designated by the Environment Agency
16	Hazardous Waste*	
17	Radioactive Waste*	
18	Other (indicate) Energy crops (non-waste)	<input checked="" type="checkbox"/>
Proportion of inert waste		0 %

Appendix B – Waste Disposal or Treatment Supplement Form

5\* Waste quantities

Estimated maximum annual amounts of materials to be imported/ processed

Please enter details for all the types as ticked at question 4 above

Type no	Description	Tonnes +m <sup>3</sup>	Percent of total
1	Poultry litter	2000	33%
18	Energy crops	4000	66%

Please state the source/s of this waste:  
 Poultry litter from broiler houses on applicant's farm. Energy crops from applicant's farm.

6\* Process types

please tick the right-hand boxes as appropriate, and delete anything that does not apply)

Waste processing:- biological / chemical / filtering / composting / digestion	✓
Waste sorting	
Waste storage	
Incineration	
Landfilling	
Landraising / spreading	
Crushing / shredding / compressing / physical processing	
Recycling	
Energy / heat / power production	
Other(indicate)	
.....	
.....	
.....	

7 Operations

duration of the operation, including any restoration and aftercare		Years
From (date)	2010	To (date) Permanent

Proposed operating periods:

Months	From:	To:
	January	December

Days / times:	hours		days	
	from	to	From	to
Operations				
Soil stripping or removal				
Land-filling or raising				
Waste processing	0.00	24.00	Mon	Sun
Vehicular movements	0.70	17.00	Mon	Fri
	0.90	13.00	Sat	Sat
Other (Indicate)				

If any ancillary operations would last beyond the operating period, please give details

N/A

8\* Transport

How will you move materials to and from the site?

All movements within farm boundary

Vehicles and trips:	Average	Maximum
Estimated number of vehicles likely to enter and leave the site daily		
Estimated daily number of trips (into and out of the site) for each vehicle	In	in
	Out	out
Vehicle size		
Estimated vehicle load capacity		

9\* Traffic

What route will be used to reach the primary road network from the site?

None

Appendix B – Waste Disposal or Treatment Supplement Form

How could traffic impact be controlled or reduced?

Traffic will be reduced from current scenario as less vehicles needed to import gas and transport produce and untreated effluent for sale.

10 Plant and machinery

What plant and machinery will be used?

1,200m<sup>3</sup> digester, walking floor, gas and solid mixers, separator, CHP unit, tanks

(indicate siting on a plan)

maximum height of plant / machinery from existing ground level (within reception building)	5.9 m
--	-------

	Average/normal	Maximum
Estimated capacity of processing plant - tonnes per hour	0.68	0.68
Estimated capacity of processing plant - tonnes per year	6,000	6,000

11 Waste storage facilities

Note: any proposed new uses, buildings, containers, hardstandings etc should be included on the main planning application form and plans.

Storage methods:

Flexible double membrane for biogas, tank for liquid digestate, storage pad for solid, feedstock clamps for energy crops

Max height of storage buildings	Feedstock clamps Digestate storage	3m 6.75m	m
Max storage floor space in buildings	Feedstock clamps		1,440 m <sup>3</sup>
Max storage capacity in containers	Digestate storage tank		962 m <sup>3</sup>
Max storage area on hardstanding		N/A	m <sup>3</sup>
Max height of stockpiles of untreated material			3 m
Max height of stockpiles of treated material			3 m

12 Final products

estimated maximum annual quantities of processed materials to be sold off site

Please enter all the types as ticked at question 5

Type no	Description	Tonnes / m <sup>3</sup>	Percent of total
	None sold off-site		
Estimated annual amount of unusable waste produced			
How will this be disposed of?			

13 Water

Will water be used in processing?

yes

no

If yes, what metric quantity?

Litres / m<sup>3</sup> per month / year

Obtained from:

Will the processing involve settlement ponds / tanks / lagoons / lakes / other drainage methods?

If yes, describe on a plan including sections and construction designs

yes

no

How will waste water be disposed of?

Via existing clean storm water drainage - brook via a dry ditch reed bed system.

Has a Consent to Discharge been applied for?

yes

no

14\* Security - please give details of:

site supervision

Applicant

site security

CCTV

emergency contingency procedures

Plant operation and maintenance manual contains a section on emergency procedures.

## Appendix B – Waste Disposal or Treatment Supplement Form

### 15\* Pollution and Contamination

Are you aware of any existing pollution or contamination on the site from previous uses? (e.g. fuel oil / chemicals / earlier waste storage.)

If yes please give details:

yes

no

How will you minimise the spread of material onto the public highway?

Good housekeeping to ensure areas are clean and tidy.

What screening, landscaping or planting is proposed during the operating period? (refer to plans)

Screen planting described in supporting statement

### 16\* Wildlife / fauna / flora

Are you aware of any statutory designations on the site? (if yes indicate below)

yes

no

SSSI / SWS / protected species / habitat / SAC / TPO / other

How will you ensure stability of any working faces, tips, heaps, stockpiles of materials?

Restricting height of stockpiles to 3m.

How do you propose to monitor and control

- Landfill gas?

N/A

- Leachates?

N/A

### 17\* Environmental mitigation

Do any watercourses cross or adjoin the site?

yes

no

How do you propose to control water pollution / drainage / floods? (refer to plans)

All processes enclosed, Liquid digestate in sealed tanks.

If working will be below the natural water table will the operation be

wet

or

dry

### 18\* Environment Agency Requirements

If any of the proposed processes are to be registered under Part A and B of the Environmental Protection Act 1990, please describe them

Variation to existing permit will be applied for when planning is approved.

Please indicate proposals for:

Dewatering method	Separate digestate into liquid and solid fractions
Water dispersal methods	N/A
Mitigation measures	N/A
Spillage / seepage control	Fully contained process, spills reincorporated.
Dust control/ Suppression	N/A
Vehicle cleaning	N/A
Noise reduction	Acoustic enclosure
Odour restriction	Odour management plan, contained process & storage
Litter/ vermin control	Same as for poultry houses.

Has a Waste Management Licence or PPC Permit been applied for?

yes

no

Have any been granted to date? (enclose copy)

yes

no

If any of the proposed processes are exempt, please describe them

Has an Exemption Certificate been issued?

If yes, enclose copy

yes

no

## Appendix B – Waste Disposal or Treatment Supplement Form

### 19\* Environmental Impact Assessment

Please read the notes for this question

a) Is an Environmental Statement submitted with this application?

yes

no

If yes:

Is the applicant willing to make copies of the Environmental Statement available for public inspection at locations other than the offices of the Planning Authority?

yes

no

If yes, at what address?

.....  
 .....  
 .....

What is the charge for copies of the Environmental Statement?

£

b) Is a Supporting Statement submitted with this application?

yes

no

### 20 Benefits\*

Please describe any benefits (economic, environmental, ecological etc) that will arise from this proposal

*Renewable energy, improved  
 fertiliser, reduced reliance on  
 external supply, additional income*

Questions 21 –24 relate to land filling and land raising only. Only answer them if they apply to your application

### 21 Land use

Area of proposed void space / landraising / storage land	m <sup>2</sup> / ha
Max depth of void space	m
Max height of raised land above original ground level	m
Average height of raised land above original ground level	m
Max depth of landfilling	m
Average depth of landfilling	m

Please specify the affected area of agricultural land (hectares) and its grade under the Agricultural Land Classification

Grade	Ha	Grade	Ha
1		3b	
2		4	
3a		5	

### 22 Soils and overburden

	Depth (mm)		Volume (metres <sup>3</sup> )
	(Average)	(Ranges)	
Topsoil existing on site			
Subsoil existing on site			
Overburden to be removed			

Will soils be stripped?

yes

no

Metric soil quantities to be moved off site:

	Depth	Volume (m <sup>3</sup> )
Topsoil		
Subsoil		
Overburden		
Other material		

What temporary or permanent storage provision will be made for soils or overburden?

Topsoil

Subsoil

Overburden

### 23 Reclamation, Aftercare and Afteruse

Is any reclamation work likely to take place within 12 months of commencement of working?

yes

no

## Appendix B – Waste Disposal or Treatment Supplement Form

will reclamation be

phased?		progressive?	
---------	--	--------------	--

(please tick)  
please summarise the number and duration of phases:

.....

Who would carry out aftercare operations?

.....

.....

Please Indicate all the intended afteruse/s:

	✓	Total area (ha)
Agricultural		
Forestry		
Habitat Creation		
Nature Conservation		
Informal Recreation		
Formal Sports		
Other		
.....		
.....		
.....		

**24\* Landscaping**

What is proposed? (include plans)

during operations	
in reclamation afteruse	

details of soil use in restoration:

	Total m <sup>3</sup> to be stripped	Average depth stripped	Total m <sup>3</sup> to be spread	Average depth spread
Topsoil from site				
Subsoil from site				
Overburden from site				
Other soil sources				
(state where from)				
Other materials				
(describe)				

What methods and machinery would be used for stripping / soil restoration / formation of storage mounds?

.....

.....

**Please remember to sign and date your form**

Signed ..... *[Signature]* ..... (Applicant/Agent)

Date ..... 18/02/10 .....

Applicants are advised that information forming this application may be made available to the public by virtue of the obligations imposed under the Freedom of Information Act 2000 and the Environmental Information Regulations 2004

Please send all your documents to:

**Herefordshire Council Planning Services, Minerals and Waste Section**  
**PO Box 230, Blueschool House, Blueschool Street, Hereford, HR1 2ZB**

For advice on plans, forms or fees please telephone Registration on 01432 260437 or 01432 261953

For advice on Minerals or Waste Development Control please telephone 01432 260385 or 01432 260136

NW/100359/N



# Design and Access Statement

## Proposed Development of an Agricultural Anaerobic Digester at Heath Farm, Hopton Heath, Shropshire



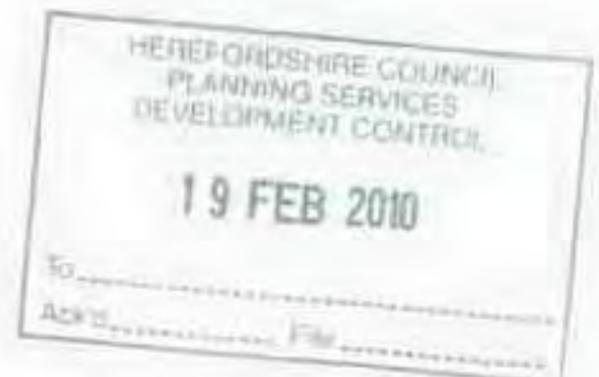
Report by: Robert Edwards  
Checked by: Nisha Rehm

Date: February 2010

Submitted to:  
MS & JE Mann & Son  
Bedstone Growers  
Heath Farm  
Hopton Heath  
Craven Arms  
Shropshire  
SY7 0QB

Prepared by:  
ADAS UK Ltd  
11D Milton Park  
Milton  
Abingdon  
Oxfordshire  
OX14 4RS

Tel: 01235 438900  
Fax: 01235 438909



0938648



4001349

### 3. DESCRIPTION OF THE PROPOSED DEVELOPMENT

#### 3.1. Anaerobic Digestion

Anaerobic digestion uses the activity of microorganisms to break down organic matter into gas containing carbon dioxide and methane. This gas is known as biogas and is used to fuel gas engines which generate electricity.

The end-substrate, or digestate, produced at the end of the process is a nutrient rich and biologically stable organic product that has value as an organic fertiliser.

A proposed site layout drawing is attached as Figures 1. An overview of the process stages is provided below.

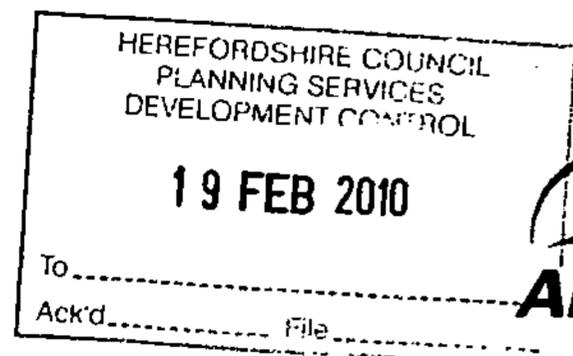
#### 3.2. Reception Building

A plant building (reception building) will be constructed adjacent to the digester. This will measure approximately 23m by 14m and will be 9m high to the ridge. The reception building will house all the plant, control panel and staff areas required for the operation of the digester.

All potentially noisy plant will be enclosed within an acoustic enclosure.

#### 3.3. Feedstock

Almost any organic substrate can be used as a feedstock to anaerobic digestion. At Heath Farm, it is proposed that there will be two main feedstocks; spent chicken litter from the on-site poultry rearing units and energy crops grown on the applicant's farm. It is proposed that all 2,000 tonnes per annum of chicken litter produced on site will be used in the digester. The main energy crops used will be maize and fodder beet which will be grown in rotation with other crops already grown on the farm. It is anticipated that the total quantity of energy crops used each year will be approximately 4,000 tonnes, which will equate to a roughly 2:1 ratio between the two main feedstocks.



NW / 100359 / N

Feedstock Clamps

Reception Building

Feedstock Conditioning

Waste Tank

Feed Pumps

Control Panel

Separation Unit

Combined Heat & Power Unit

Existing Shed

Anaerobic Digester

Gas Holder

Digestate Storage

HEREFORDSHIRE COUNCIL  
PLANNING SERVICES  
DEVELOPMENT CONTROL

19 FEB 2010

To: MARCHES BIOGAS  
Ack'd: [Signature]

Marches Biogas  
Ludlow,  
Shropshire SY8 4JT  
Tel. No. 07877 141778

Rev.	Issue Details	Date	Scale	Client
A	Issued for Planning	06.02.10	1:750/A4	Bedstone Growers
			Drawn RM	Project Anaerobic Digestion Plant
			Checked	Title Plan View with Labels
			Approved	Drawing No. MB060210BG/10

This drawing and design is the property of Marches Biogas and without the written consent of Marches Biogas may not be copied, in whole or in part, or in part or disseminated to a third party or used for any other purpose.

NW / 100359 / N

Energy crops will be stored in a feedstock clamp to be constructed as part of the proposed development on the northern side of the access road. This will be of the same construction and operation as a traditional silage clamp used on most dairy and beef farms.

On completion of each production cycle in the chicken rearing units, chicken litter will be tipped directly into a feed bunker housed within the reception building. The feedstock will then be fed gradually into the digester by means of a moving floor and auger.

Temporary storage of the litter prior to transfer to the digester will be provided as at present within the actual chicken rearing units.

Energy crops will be transferred as required from the clamp to a mixer which will pass the feedstock directly into the digester.

### 3.4. Digestion

The digester itself will comprise a below ground storage tank with a capacity of 1,200m<sup>3</sup>. A flexible membrane will cover one third of the tank, with the remainder covered by a fixed roof. The flexible membrane will act as a temporary biogas store, with emergency release valves built into the fixed roof.

Feedstock will be fed into the digester and continuously mixed and circulated by nozzles cast into the concrete base. For optimum performance, the digester will be maintained at a constant temperature of 42° Celsius by the circulation of hot water by an internal heat exchanger which will be powered by the CHP unit.

### 3.5. Biogas Generation and Storage

Biogas will be generated constantly by the process and stored in the flexible double membrane which forms part of the digester roof. A gas pipe will feed from here to the boiler and CHP unit.

HEREFORDSHIRE COUNCIL PLANNING SERVICES DEVELOPMENT CONTROL		
19 FEB 2010		
To	.....	
Ack'd	.....	File



### 3.6. Biogas Utilisation

The biogas will be used to fuel a single CHP unit with a rated output of 350kW. A proportion (approximately 30%) of the heat recovered will be used to heat the digester, with the remainder available for other uses such as providing heating to the on-site poultry units. This will displace the gas heating which is currently used, hence saving money for the applicant and reducing the reliance on fossil fuels.

A biogas fuelled boiler will also be installed, for operation at times when the CHP unit is not operational, or when its capacity is exceeded.

A low-level waste gas burner will be incorporated into the CHP unit to ensure that no unburned biogas is released to atmosphere.

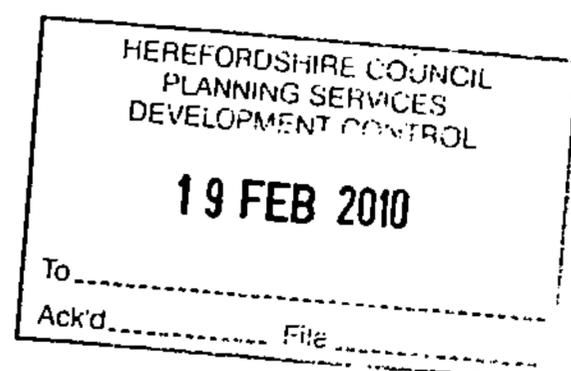
Electricity generated will be used to provide energy for the poultry units and other buildings on-site, with the excess sold to the grid.

### 3.7. Digestate Management and Storage

On completion of the digestion process and extraction of the full gas yield, the feedstock will be reduced to a slurry, known as digestate. Digestate will be pumped from the digester to a mechanical press which separates the slurry into a solid and liquid fraction.

Solid digestate, which is typically similar in texture and stability to matured compost will gravitate into a stockpile below the press, or directly into a trailer or other containment vessel placed underneath the press. The solid digestate is a valuable nutrient-rich soil enhancer which will be used on the applicant's own farm.

A particular benefit of the digestate is that nitrogen is more readily accessible for plant uptake than it is in untreated chicken litter. It is also biologically much more stable and therefore has less risk of causing odour nuisance or water pollution.

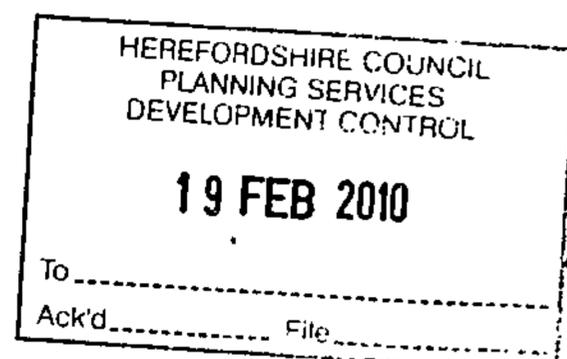


A pad for the storage of solid digestate will be provided at the southern end of the digester.

The liquid fraction will be either pumped back into the digester to regulate the moisture content or into a separate liquid digestate storage tank as required. The storage tank will be periodically emptied and the contents applied to land on the applicant's own farm, or on other farms in the local area.

### **3.8. Process Monitoring and Regulation**

The operation of the biogas plant will be fully automated from a central instrumentation panel housed in the reception building which will receive and interpret information transmitted from instrumentation around the plant.



The exact energy yield will depend on the precise mix and quantities of feedstocks used. Based on the scheme as proposed and utilising the feedstock types and quantities detailed in this statement, it is calculated that the biogas yield will be 2,562m<sup>3</sup> per day, which assuming typical rates of operating efficiency in the CHP unit equates to an annual electricity output of 1,591MWh / year and an annual heat output of 3,099MWh / year. Some of this will be re-used by the digester, giving an electrical and thermal balance of 1,422MWh / year and 2,793MWh / year respectively.

Electrical efficiency will be continuously monitored as part of the process control system. Combined heat and power generators vary in rated overall efficiency but the best practicable generator available will be used. The gas quality and quantity will be measured daily and the generator efficiency calculated.

#### **4.4. Engineered Construction Quality Assurance**

The AD plant will be built to a high specification with a life expectancy in excess of 30 years. The Marches Biogas design is based on a number of key principles:

- Plant designed to be robust, simple, reliable and safe.
- Plant designed to be easy to operate and without complexities.
- There is no equipment inside the sealed process tanks other than the heating system as the mixing of substrate is achieved by a gas injection system which is operated by independent gas compressors.
- The process tank is constructed below ground of reinforced concrete with a floor which slopes to a central hopper from which contaminants are collected and discharged. This principle coupled with the gas-mixing system prevents the accumulation of grit within the tanks.
- The process tank is sealed and is directly connected to the biogas storage system, which ensures there are no emissions from the tank to atmosphere. The sealed tanks are all insulated in order to conserve heat within the system.



**Table 6.1: Estimated average vehicle movements per month before and after the proposed development.**

<b>Activity</b>	<b>Existing (poultry enterprise only)</b>	<b>Post development (poultry and digester)</b>
<b>HGVs</b>		
Compound feed delivery	11.35	11.35
Shavings delivery	0.22	0.22
Gas delivery	0.41	0.12
Catching (broiler removal)	12.00	12.00
<b>Total HGVs</b>	<b>24.39</b>	<b>23.69</b>
<b>Tractor and trailer</b>		
Manure removal	13.35	0

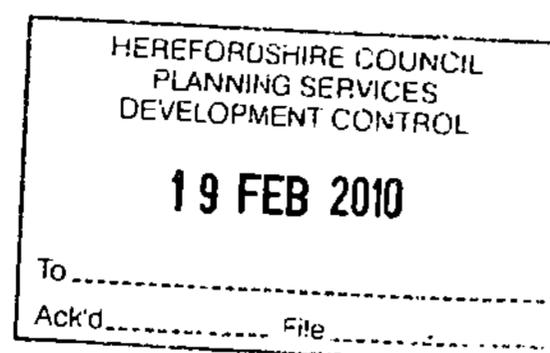
#### **6.4. Landtake**

The area on which the proposed anaerobic digester is to be constructed occupies 1,300m<sup>2</sup> (0.13 hectares). The total developable area, including the feedstock clamps, and digestate storage areas is approximately 5,000m<sup>2</sup> (0.5 hectares).

The application area currently comprises poor semi-improved grassland, within the curtilage of the existing farm complex.

#### **6.5. Trees and Hedges**

The proposed development will not require the removal of any trees or hedges.



**APPENDIX A - MARCHES BIOGAS PROPOSAL**

HEREFORDSHIRE COUNCIL  
PLANNING SERVICES  
DEVELOPMENT CONTROL

**19 FEB 2010**

To \_\_\_\_\_  
Ack'd \_\_\_\_\_ File \_\_\_\_\_



#### 4. Benefits of Anaerobic Digestion

AD is a multi-faceted process and has a number of different benefits:

##### 4.1. Waste Management

AD stabilises organic wastes, thereby preventing unwanted pollution. Uncontrolled methane emissions are avoided ( $\text{CH}_4$  is 22 times more powerful than  $\text{CO}_2$  as a greenhouse gas); the polluting power of waste is substantially reduced; foul odours are all but eliminated; pathogenic organics are killed (complete eradication is achieved by the inclusion of pasteurisation); and weed seeds are destroyed.

##### 4.2. Nutrient Management

Organic wastes, including chicken litter, contain valuable nutrients; however, a significant proportion of nitrogen in particular is locked up in unavailable forms. AD as an enclosed process retaining all the nutrients and, importantly, converts them into available forms. This enables a farm to plan its nutrient management and to reduce its dependency on mineral fertilisers, which themselves require fossil fuels for their production.

##### 4.3. Renewable Energy

In addition to the benefits of waste management and nutrient management, AD produces renewable energy in the form of biogas. Biogas can be used either in a conventional boiler, or as the fuel for a combined heat & power (CHP) unit, or as a vehicle fuel.

When biogas is used to produce electricity in a CHP unit, this qualifies for renewable obligation certificates (ROCs) under government legislation. A generator qualifies for ROCs whether the electricity is exported or is used on site.

The value of renewable electricity is made up of three parts; first, the value of the electricity itself, currently worth about 6.5 pence per kWh (£65 per MWh) if it is exported or up to £80 per MWh if it is displacing existing demand; second, the electricity qualifies for levy exemption certificates (LECs) which are worth £4 per MWh; third, the current value of ROCs which depends on renewable targets, is about £50 per MWh. The electricity is thus worth between about £170 and £185 per MWh with double ROCs depending on whether it is exported or used on site. Small-scale renewable electricity is normally traded through specialist licensed electricity suppliers.

#### 5. Feedstock

Bedstone Growers has an average base load of 200 kWe, the chicken litter alone will not be able to develop enough biogas to produce such an output. The principal digester feedstocks are chicken litter and energy crops.

#### 6. Process Description

##### 6.1. Feedstock Input

The chicken litter will be loaded into a covered feed bunker which contains a moving floor this will move the solid feedstock to an auger which transfers the solid feedstock directly into the digester. The pre shredded energy crops are loaded into a stationary mixer which transfers the



#### 6.4. Biogas Storage

Biogas is stored in the flexible double membrane which forms part of the digester roof, which is maintained at a constant pressure of 15mbar by an air blower.

There is a gas pipe connection at the gas holder for the boiler and CHP unit.

There is a gas pipe from the gas holder to a emergency gas flare, capacity 100m<sup>3</sup>.h<sup>-1</sup>.

Condensate traps are installed at all low spots in the gas pipework.

A portable gas monitor is provided which is calibrated to measure CH<sub>4</sub>, CO<sub>2</sub> & H<sub>2</sub>S

#### 6.5. Digestate Storage

The digestate storage tank is an above-ground open-top enamel-steel tank with a covered roof and has a capacity of 1200m<sup>3</sup>.

The liquid digestate if necessary can be transferred to additional storage on site before application to farmland.

#### 6.6. Biogas Utilisation

The biogas is used to fuel a single CHP unit which has a rated output of 250kW of electricity plus 450kW of heat recovered from the engine jacket water and exhaust. A proportion (approximately 30%) of the heat recovered is used to heat the digester. The CHP is installed in an acoustic enclosure to keep sound levels to a minimum.

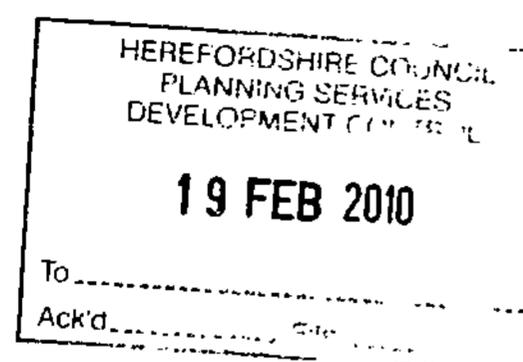
A biogas boiler is used when the CHP unit is not operating, for example during routine maintenance.

A low-level emergency gas burner, capacity 100m<sup>3</sup>, is provided to ensure that no unburned biogas is released to atmosphere.

Surplus heat from the CHP unit is available for use on the site, and heat not utilised is dissipated to atmosphere by a fan-assisted radiator.

#### 6.7. Process Control

The operation of the biogas plant is fully automated from a central control panel which interprets information transmitted from instrumentation around the plant.



N / 111652 / N

Application for removal or variation of a condition following grant of planning permission.

Town and Country Planning Act 1990.

Planning (Listed Buildings and Conservation Areas) Act 1990

You can complete and submit this form electronically via the Planning Portal by visiting [www.planningportal.gov.uk/apply](http://www.planningportal.gov.uk/apply)

**Publication of applications on planning authority websites**

Please note that the information provided on this application form and in supporting documents may be published on the Authority's website. If you require any further clarification, please contact the Authority's planning department.

Please complete using block capitals and black ink.  
It is important that you read the accompanying guidance notes as incorrect completion will delay the processing of your application.

**1. Applicant Name and Address**

Title:  First name:

Last name:

Company (optional):

Unit:  House number:  House suffix:

House name:

Address 1:

Address 2:

Address 3:

Town:

County:

Country:

Postcode:

**2. Agent Name and Address**

Title:  First name:

Last name:

Company (optional):

Unit:  House number:  House suffix:

House name:

Address 1:

Address 2:

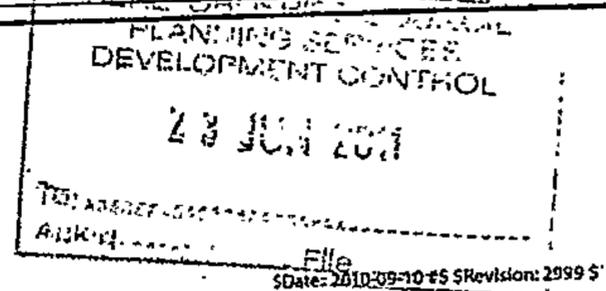
Address 3:

Town:

County:

Country:

Postcode:



### 3. Site Address Details

Please provide the full postal address of the application site.

Unit:  House number:  House suffix:

House name: **HEATH FARM**

Address 1: **HOPTON HEATH**

Address 2:

Address 3:

Town: **CRAVEN ARMS**

County: **SHROPSHIRE**

Postcode (optional): **SY70QB**

Description of location or a grid reference. (must be completed if postcode is not known):

Easting:  Northing:

Description:

### 4. Pre-application Advice

Has assistance or prior advice been sought from the local authority about this application?  Yes  No

If Yes, please complete the following information about the advice you were given. (This will help the authority to deal with this application more efficiently).

Please tick if the full contact details are not known, and then complete as much as possible:

Officer name:

**DEBBY KLEIN**

Reference:

**DMNW/100359/N**

Date (DD/MM/YYYY): (must be pre-application submission)

**27/04/11**

Details of pre-application advice received?

**NEW PLANS WERE SENT IN TO CHECK AND ADVICE WAS TO VARY CONDITION 2**

### 5. Description Of Your Proposal

Please provide a description of the approved development as shown on the decision letter, including the application reference number and date of decision in the sections below:

**ON SITE ANAEROBIC DIGESTER TO GENERATE RENEWABLE ENERGY.**

Reference number: **DMNW/100359/N** Date of decision (DD/MM/YYYY): **14/05/10** (date must be pre-application submission)

Please state the condition number(s) to which this application relates:

1.		6.	
2.	<b>APPROVED PLANS.</b>	7.	
3.		8.	
4.		9.	
5.		10.	

Has the development already started?  Yes  No

If Yes, please state when the development started (DD/MM/YYYY):

(date must be pre-application submission)

Has the development been completed?  Yes  No

If Yes, please state when the development was completed (DD/MM/YYYY):

(date must be pre-application submission)  
 NEWCASTLE COUNCIL  
 PLANNING SERVICES  
 DEVELOPMENT CONTROL

### 6. Condition(s) - Removal

Please state why you wish the condition(s) to be removed or changed:

**BECAUSE OF CHANGE OF DESIGN DUE TO COST AND COMPLICATIONS WITH PREVIOUS DESIGN.**

If you wish the existing condition to be changed, please state how you wish the condition to be varied:

**WE HAVE SUBMITTED A COMPLETE SET OF NEW PLANS AND WOULD LIKE THESE TO REPLACE OLD PLANS**

### 3. Site Address Details

Please provide the full postal address of the application site.

Unit:  House number:  House suffix:

House name: **HEATH FARM**

Address 1: **HOPTON HEATH**

Address 2:

Address 3:

Town: **CRAVEN ARMS**

County: **SHROPSHIRE**

Postcode (optional): **SY70QB**

Description of location or a grid reference.  
(must be completed if postcode is not known):

Easting:  Northing:

Description:

### 4. Pre-application Advice

Has assistance or prior advice been sought from the local authority about this application?  Yes  No

If Yes, please complete the following information about the advice you were given. (This will help the authority to deal with this application more efficiently). Please tick if the full contact details are not known, and then complete as much as possible:

Officer name: **DEBBY KLEIN**

Reference: **DMNW/100359/N**

Date (DD/MM/YYYY): **27/04/11**  
(must be pre-application submission)

Details of pre-application advice received?  
**NEW PLANS WERE SENT IN TO CHECK AND ADVICE WAS TO VARY CONDITION 2**

### 5. Description Of Your Proposal

Please provide a description of the approved development as shown on the decision letter, including the application reference number and date of decision in the sections below:

**ON SITE ANAEROBIC DIGESTER TO GENERATE RENEWABLE ENERGY.**

Reference number: **DMNW/100359/N** Date of decision (DD/MM/YYYY): **14/05/10** (date must be pre-application submission)

Please state the condition number(s) to which this application relates:

1.		6.	
2.	<b>APPROVED PLANS.</b>	7.	
3.		8.	
4.		9.	
5.		10.	

Has the development already started?  Yes  No

If Yes, please state when the development started (DD/MM/YYYY):  (date must be pre-application submission)

Has the development been completed?  Yes  No

If Yes, please state when the development was completed (DD/MM/YYYY):  (date must be pre-application submission)

HEREFORDSHIRE COUNCIL  
PLANNING SERVICES  
DEPARTMENT CONTROL

### 6. Condition(s) - Removal

Please state why you wish the condition(s) to be removed or changed:

**BECAUSE OF CHANGE OF DESIGN DUE TO COST AND COMPLICATIONS WITH PREVIOUS DESIGN.**

If you wish the existing condition to be changed, please state how you wish the condition to be varied:

**WE HAVE SUBMITTED A COMPLETE SET OF NEW PLANS AND WOULD LIKE THERE TO REPLACE OLD PLANS**

23 JUN 2011

To:

**7. Ownership Certificates**

One Certificate A, B, C, or D, must be completed with this application form

**CERTIFICATE OF OWNERSHIP - CERTIFICATE A**

**Town and Country Planning (Development Management Procedure) (England) Order 2010 Certificate under Article 12**

I certify/ The applicant certifies that on the day 21 days before the date of this application nobody except myself/ the applicant was the owner (owner is a person with a freehold interest or leasehold interest with at least 7 years left to run) of any part of the land or building to which the application relates.

Signed - Applicant:

Or signed - Agent:

Date DD/MM/YYYY:

*(Signature)*

21/6/11

**CERTIFICATE OF OWNERSHIP - CERTIFICATE B**

**Town and Country Planning (Development Management Procedure) (England) Order 2010 Certificate under Article 12**

I certify/ The applicant certifies that I have/ the applicant has given the requisite notice to everyone else (as listed below) who, on the day 21 days before the date of this application, was the owner (owner is a person with a freehold interest or leasehold interest with at least 7 years left to run) of any part of the land or building to which this application relates.

Name of Owner	Address	Date Notice Served

Signed - Applicant:

Or signed - Agent:

Date DD/MM/YYYY:

**CERTIFICATE OF OWNERSHIP - CERTIFICATE C**

**Town and Country Planning (Development Management Procedure) (England) Order 2010 Certificate under Article 12**

I certify/ The applicant certifies that:

- Neither Certificate A or B can be issued for this application
- All reasonable steps have been taken to find out the names and addresses of the other owners (owner is a person with a freehold interest or leasehold interest with at least 7 years left to run) of the land or building, or of a part of it, but I have/ the applicant has been unable to do so.

The steps taken were:

Name of Owner	Address	Date Notice Served

HEREFORDSHIRE COUNCIL  
PLANNING SERVICES  
DEVELOPMENT CONTROL  
28 JUN 2011

Notice of the application has been published in the following newspaper (circulating in the area where the land is situated):

On the following date (which must not be earlier than 21 days before the date of the application):

Signed - Applicant:

Or signed - Agent:

Date DD/MM/YYYY:

**7. Ownership Certificates (continued)**

**CERTIFICATE OF OWNERSHIP - CERTIFICATE D**

**Town and Country Planning (Development Management Procedure) (England) Order 2010 Certificate under Article 12**

I certify/ The applicant certifies that:

- Certificate A cannot be issued for this application
- All reasonable steps have been taken to find out the names and addresses of everyone else who, on the day 21 days before the date of this application, was the owner (*owner is a person with a freehold interest or leasehold interest with at least 7 years left to run*) of any part of the land to which this application relates, but I have/ the applicant has been unable to do so.

The steps taken were:

Notice of the application has been published in the following newspaper (circulating in the area where the land is situated):

On the following date (which must not be earlier than 21 days before the date of the application):

Signed - Applicant:

Or signed - Agent:

Date DD/MM/YYYY:

**8. Agricultural Land Declaration**

**AGRICULTURAL LAND DECLARATION**

**Town and Country Planning (Development Management Procedure) (England) Order 2010 Certificate under Article 12**  
**Agricultural Land Declaration - You Must Complete Either A or B**

(A) None of the land to which the application relates is, or is part of, an agricultural holding.

Signed - Applicant:

Or signed - Agent:

Date (DD/MM/YYYY):

21/06/11

(B) I have/ The applicant has given the requisite notice to every person other than myself/ the applicant who, on the day 21 days before the date of this application, was a tenant of an agricultural holding on all or part of the land to which this application relates, as listed below:

Name of Tenant	Address	Date Notice Served

Signed - Applicant:

Or signed - Agent:

Date (DD/MM/YYYY):

**9. Planning Application Requirements - Checklist**

Please read the following checklist to make sure you have sent all the information in support of your proposal. Failure to submit all information required will result in your application being deemed invalid. It will not be considered valid until all information required by the Local Planning Authority has been submitted.

The original and 3 copies of a completed and dated application form:

The original and 3 copies of the completed, dated Ownership Certificate (A, B, C or D, as applicable)

The original and 3 copies of other plans and drawings or information necessary to describe the subject of the application:

The original and 3 copies of the completed, dated Article 12 Certificate (Agricultural Holdings): 2011

The correct fee:

HERSFORD BOROUGH COUNCIL  
 DEVELOPMENT CONTROL

TO: PLANNING OFFICER

Date: 21/06/11

**10. Declaration**

I/we hereby apply for planning permission/consent as described in this form and the accompanying plans/drawings and additional information.

Signed - Applicant:

Or signed - Agent:

Date (DD/MM/YYYY):

*[Signature]*

21/06/11

(date cannot be pre-application)

**11. Applicant Contact Details**

Telephone numbers

Country code: National number: Extension number:  
[ ] 01547530576 [ ]

Country code: Mobile number (optional):  
[ ] 07970541468 [ ]

Country code: Fax number (optional):  
[ ] [ ]

Email address (optional):  
philip.mann@yahoo.co.uk

**12. Agent Contact Details**

Telephone numbers

Country code: National number: Extension number:  
[ ] [ ] [ ]

Country code: Mobile number (optional):  
[ ] [ ]

Country code: Fax number (optional):  
[ ] [ ]

Email address (optional):  
[ ]

**13. Site Visit**

Can the site be seen from a public road, public footpath, bridleway or other public land?  Yes  No

If the planning authority needs to make an appointment to carry out a site visit, whom should they contact? (Please select only one)  Agent  Applicant  Other (if different from the agent/applicant's details)

If Other has been selected, please provide:

Contact name: [ ]

Telephone number: [ ]

Email address: [ ]

HEREFORDSHIRE COUNCIL  
PLANNING SERVICES  
DEVELOPMENT CONTROL  
23 JUN 2011  
TEL: 01432 343100  
FAX: 01432 343101

N / 111652 / N

# BEDSTONE GROWERS

HEATH FARM, HOPTON HEATH, CRAVEN ARMS, SHROPSHIRE, SY7 0QB

## Supporting Statement

### Variation of condition 2 of planning permission reference DMNW/100359/N - amendments to approved plans for permitted anaerobic digester

Bedstone growers gained planning permission for an on site anaerobic digester in May last year, it is intended to digest our own poultry manure and energy crops grown on the farm to produce renewable electric and heat for our broiler operation and to export into the local grid under the governments feed in tariff scheme.

In the original plans submitted and approved a square type concrete tank was proposed utilising mixed plug flow, this will be the first time this technology has been used in the UK, its benefits are better mixing and efficiency due to all feedstock being digested when it comes out after the retention time, based on first in first out and also complete pathogen kill in manures.

Being a new design to this country we have come across all sorts of problems namely with construction build cost and structure guarantee, there are dozens of these digesters in the US and Europe but none in the UK,.

After many site meetings and proposals we have now come up with a compromise to the square tank, we aim to still utilise plug flow with its added efficiencies and benefits but instead of using a square tank we aim to use a ring in ring circular tank, these tanks are widely constructed across Europe and the UK and are proven in operation and construction with several companies which are UK based able to construct and give process guarantees.

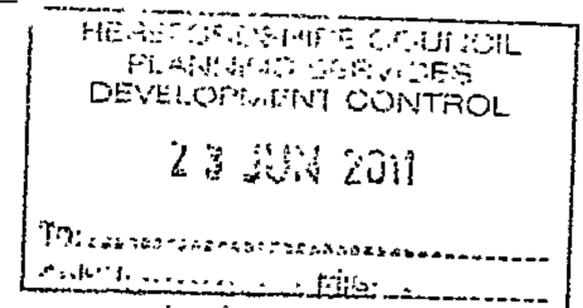
The design is based on a doughnut shape where all feedstock is fed into the digesters first ring as in diagram below and moved around slowly over 20 – 30 days to the end of the ring and baffle wall where it will then weir over into central ring to finish last stage of digestion before being sent to the digestate store, the ring in ring design is widely used in UK but not with baffle wall for plug flow.

The gas holder will as in original plans still be on the top of tank over central ring and the outside ring will have a concrete roof.

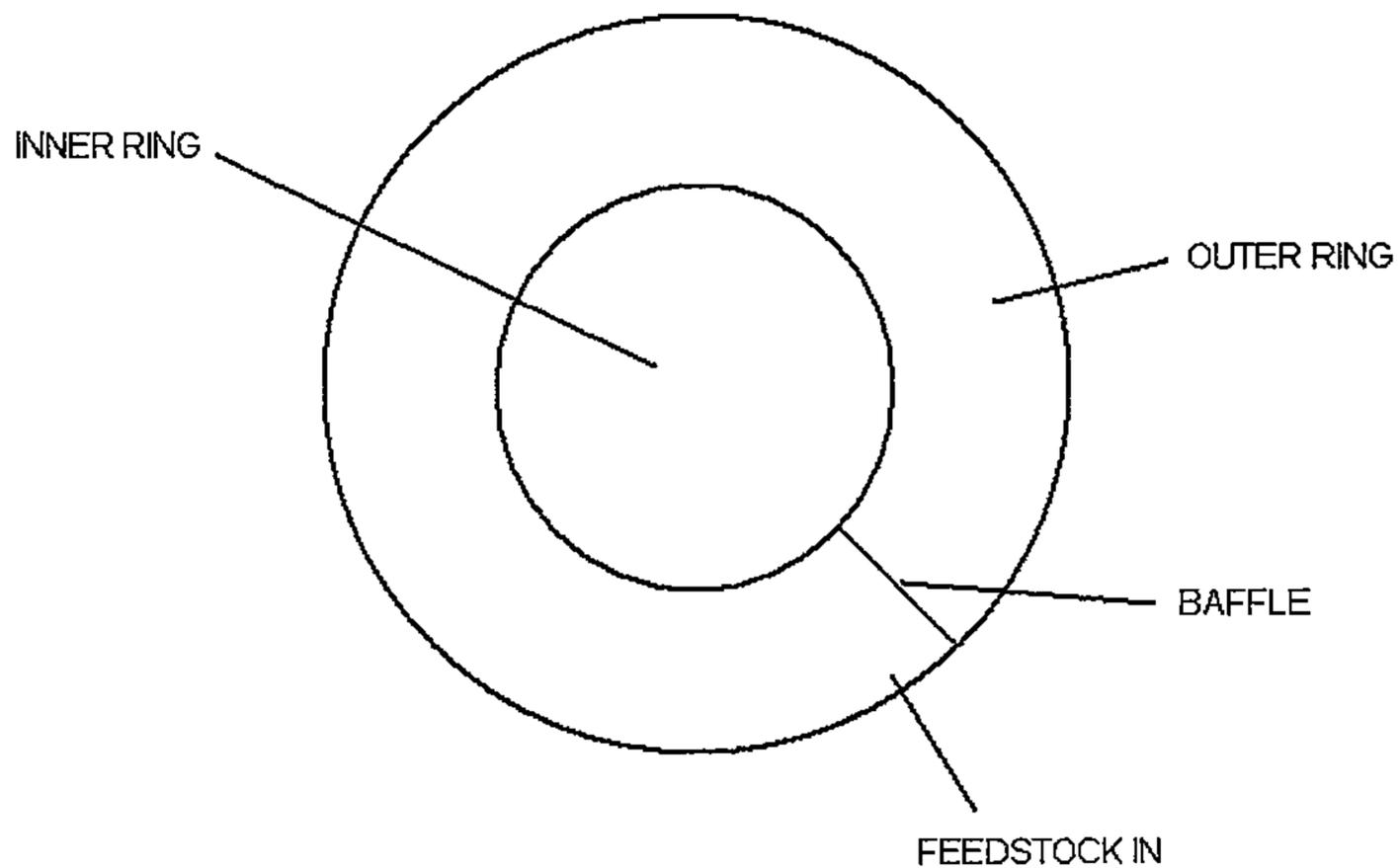
All process operations will be the same as original plans approved and we wish just to vary site plans as attached.

Regards

Philip Mann – Bedstone Growers [philip.mann@yahoo.co.uk](mailto:philip.mann@yahoo.co.uk)



Feedstock is fed in as indicated moving gradually clockwise until reaching baffle wall where it then goes into the inner ring to finish last stage of digestion before going into digestate store. Retention time of feedstock is guaranteed, standard tank mixers can discharge up to 18% of non digested material due to whole tank mixing.



# Anaerobic Digestion Facilities | Bedstone Growers

**Client – Bedstone Growers**

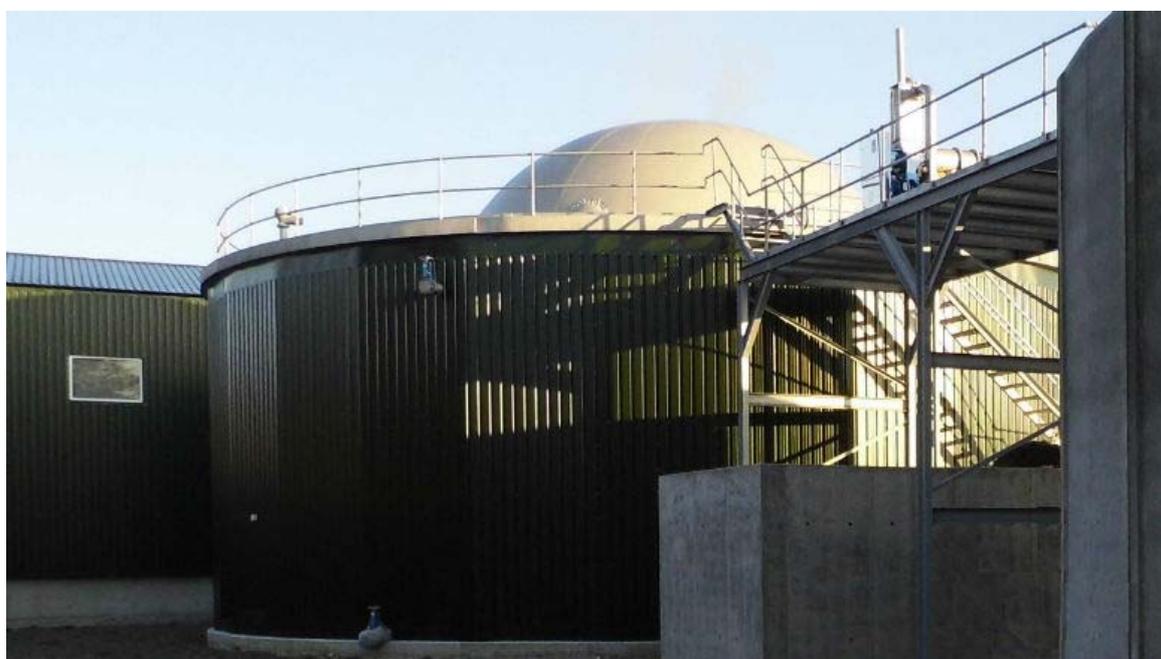
**Location – Shropshire**

**Digester – 1,800m<sup>3</sup> Semi Plug Flow**

**Feedstock – Energy Crops, Chicken Manure**

**Design Output – 250kWe**

**Current Output – 550kWe**



**The Bedstone Growers semi plug flow digester was designed, built and commissioned by Marches Biogas Ltd in 2011.**

Originally the plant was designed to produce 250kWe but has more than doubled this output with additional CHP capacity added in 2015 bringing the total electrical output to 550kWe, while the operational volume of the digester has remained the same.

In 2015 Marches Biogas Ltd also installed a belt dryer to dry wood chip utilising the heat from one of the CHPs.

Since the plant was commissioned Marches Biogas has provided a full support package, this is now being provided by Evolution Biogas and includes full biological support together with proactive mechanical and electrical maintenance

support which ensures that the plant runs smoothly.

*'Marches Biogas has provided a reliable and effectively designed plant which has allowed the project to expand. We continue to be supported through Evolution Biogas and are very happy with the delivery of service which maintains the efficiency of electrical output in excess of 90%.'*

Phil Mann, Managing Director, Bedstone Growers.

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*We continue to be supported through Evolution Biogas and are very happy with the delivery of service which maintains the efficiency of electrical output in excess of 90%.*

## **Safety Checks**

**Ensure that your safety process control is operating as it is designed to do so by regularly checking that process inhibits work correctly.**

Contact us today to book your plant in for a safety check.

[contact us](#)

# Anaerobic digestion and energy

Charles Banks

# First estimate of digester energy yield

- Assume that 1 m<sup>3</sup> of biogas has a calorific value of 22 MJ
- Energy yield (MJ day<sup>-1</sup>):  
  
= daily gas production (m<sup>3</sup> day<sup>-1</sup>) x 22 MJ m<sup>-3</sup>

# Energy equivalents

- 1 Watt = 1 joule second<sup>-1</sup>
- 1Wh = 1 x 3600 joules (J)
- 1 kWh = 3600000 J
- 1kWh = 3.6MJ
- 22MJ (1m<sup>3</sup> biogas) = 22/3.6 kWh
- = 6.1 kWh
- Electrical conversion efficiency = 35%

Therefore 1m<sup>3</sup> biogas = 2.14kWh (elec)

# Theoretical - Method

- Carbon content of a feed material can be used in combination with the Buswell equation to estimate methane production

But.....

- We need to assume what proportion of the feed material is degraded in the process
- Can be based on typical values for different materials

Food waste 85%, maize 80%, biodegradable municipal waste 70%.....

# Energy value of methane and waste

1m<sup>3</sup> methane = 36 MJ

1 kWh = 3.6 MJ

1m<sup>3</sup> CH<sub>4</sub> = 10kWh

1 tonne (1000kg) wet waste

58.1m<sup>3</sup>CH<sub>4</sub> x 10 kWh m<sup>-3</sup>CH<sub>4</sub>

=581 kWh

**VALORGAS**





Department  
for Environment  
Food & Rural Affairs

[www.gov.uk/defra](http://www.gov.uk/defra)

# Guidance on complying with the rules for Nitrate Vulnerable Zones in England for 2013 to 2016

November 2013

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[www.gov.uk/nitrate-vulnerable-zones](http://www.gov.uk/nitrate-vulnerable-zones)

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PB 14050

Poultry	Occupancy (%)	Total N produced (kg/year) (note a)	Weight of excreta (tones / month)	Animal places per ha to comply with maximum N loading (170 kg/ha N /year)
1,000 replacement layer pullet places, up to 17 weeks	89	210	1.1	800
1,000 laying hens in cages, 17 weeks and over	97	400	3.5	420
1,000 laying hen places, free range (note b), 17 weeks and over	97	530	3.5 (note b)	320
1,000 broiler places	85	330	1.5	510
1,000 replacement broiler breeder pullet places, up to 25 weeks	92	290	1.1	590
1,000 broiler breeder places, 25 weeks and over	95	700	3.4	240
1,000 turkey places (male)	90	1,230	4.3	140
1,000 turkey places (female)	88	910	3.2	190
1,000 duck places	83	750	2.5	230
1 ostrich	100	1.4	0.05 (note b)	121

### Notes

- (a) N produced in excreta is per 1,000 poultry places (except ostriches) and includes an allowance for N losses from livestock housing and manure storage.
- (b) When calculating storage requirements, you should make an allowance for the proportion of time that birds are not housed. Commonly, free range laying hens are housed for 80% to 90% of the time. Figures given assume 80% of excreta are deposited in buildings.



## coordinated woodfuel Initiative

A guide to small-scale wood fuel (biomass) heating systems

This guide has been written by the Wood Fuel South West Advice Service; a project funded by Woodland Renaissance, Areas of Outstanding Natural Beauty in the South West (AONBs) and the Forestry Commission. It is for people interested in finding out more about biomass boiler systems.

As a priority, before considering the installation of a biomass heating system, you should investigate the potential for energy efficiency measures. These will help to lower heating demands and result in the installation of a smaller and cheaper biomass system requiring less fuel.

Domestic projects should contact their local Energy Savings Trust Energy Advice Centre today on: 0800 512 012.

## **1.2 The benefits of using biomass as a fuel**

Biomass is a renewable, low carbon fuel that is already widely, and often economically, available throughout the UK. Its production and use also brings additional environmental and social benefits.

Correctly managed, biomass is a sustainable fuel that can offer a significant reduction in net carbon emissions compared with fossil fuels and also many ancillary benefits:

- Biomass can be sourced locally, within the UK, on an indefinite basis, contributing to security of fuel supply
- UK sourced biomass can offer local business opportunities and support the rural economy
- The establishment of local networks of production and usage allows financial and environmental costs of transport to be minimised. There is no region in the UK that cannot be a producer of biomass, although some will have greater levels of productivity than others
- Woodlands, forestry and agriculture are generally perceived by the UK population to be an environmentally and socially attractive amenity; providing opportunities for recreation and leisure activities
- Biomass fuels generate significantly lower levels of atmospheric pollutants than fossil fuels, e.g. sulphur dioxide (a major cause of 'acid rain')
- Modern biomass combustion systems are highly sophisticated, offering combustion efficiencies comparable with the best fossil fuel boilers
- Using arboricultural residues, forestry arisings, sawmill co-products and waste as fuel diverts materials that would otherwise be consigned to landfill. This eliminates costs for disposal, and reduces the burden on limited landfill resources
- Utilising biomass as fuel encourages more woodlands to be sustainably managed, thus benefiting biodiversity.

## **1.3 How much biomass?**

The annual demand for biomass fuel for a particular site depends on the following:

- Scale of the installation
- Conversion option (heat only, combined heat & power [CHP], boiler or stove)
- Operating hours
- Boiler efficiency
- The energy content (net calorific value or energy density) of the fuel (Mj/tonne or kWh/tonne), which is determined by:
  - Moisture content of the fuel<sup>2</sup>
  - Species of tree
  - Type of wood (conifer/hardwood, whole tree/residues)

A useful rule of thumb for a heat only installation is 1 tonne of wood chip at 30% moisture content per year per kilowatt installed.

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<sup>2</sup> In combustion systems any water content in the fuel must be driven off before the first stage of combustion can occur, requiring energy, and thus reducing overall system efficiency and potentially reducing combustion temperature below the optimum. [www.biomassenergycentre.org.uk](http://www.biomassenergycentre.org.uk) Forestry Commission

Table 1 below shows approximate figures for how much energy is contained in different fuels per unit weight, or the 'energy density' of a fuel. The table illustrates that 1 tonne of wood chip contains three times less energy than 1 tonne of oil. Because wood is less energy dense than oil or gas, a greater volume and weight is required to provide the same value of energy.

Fuel	Energy density by mass (GJ/tonne)	Energy density by mass (kWh/kg)	Bulk density kg/m <sup>3</sup>	Energy density by volume (MJ/m <sup>3</sup> )	Energy density by volume (kWh/m <sup>3</sup> )
Wood chips (very dependent on MC)	7-15	2-4	175-350	2,000-3,600	600-1,000
Log wood (stacked - air dry: 20% MC)	15	4.2	300-550	4,500-8,300	1,300-2,300
Wood (solid -oven dry)	18-21	5-5.8	450-800	8,100-16,800	2,300-4,600
Wood pellets	18	5	600-700	10,800-12,600	3,000-3,500
Miscanthus (bale)	17	4.7	120-160	2,000-2,700	560-750
Coal (lignite to anthracite)	20-30	5.6-8.3	800-1,100	16,000-33,000	4,500-9,100
Oil	42	11.7	36,500	36,500	10,200
Natural gas (NTP)	54	15	39	39	10.8

**Table 1. Energy density and bulk density of fuels (1Mj = 0.27kWh & 1Gj = 277.8kWh). MC refers to Moisture Content as a %. Source: Forestry Commission.**

#### **1.4 What you should expect from your biomass fuel supplier**

As mentioned previously, the quality of your biomass supply will influence whether or not your project will be a success or not. This is particularly relevant to with wood chip which can vary a great deal in terms of quality. If you are going to be using wood chip you should ensure the following:

- The wood chip comes from a supplier who understands biomass fuel. If this is the case they will be able to sell you wood chip either by the tonne, volume or energy content (number of kWh)
- Moisture content must be consistent and matched to your boiler type
- The wood chip must be of a consistent size; containing no slivers that will clog or jam the fuel feed mechanism (although for larger installations, > 500kW, this is much less of an issue, because the fuel feed systems are large enough to accommodate all sizes of fuel)
- The wood chip must be free from contaminants. For example, if the wood chip is coming from arboricultural or tree surgery arisings it may contain grit, litter and dust. Any foreign objects could damage your boiler
- If you are unable to use ash on your garden or site, the supplier may be able to remove it
- Deliveries should be regular, easy to schedule and reliable
- Your supplier should be willing to provide you with details of quality assurance

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## Appeal Decision

Hearing held on 12 and 13 May 2016

Site visit made on 13 May 2016

**by Katie Peerless Dip Arch RIBA**

**an Inspector appointed by the Secretary of State for Communities and Local Government**

**Decision date: 22 June 2016**

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**Appeal Ref: APP/P3800/X/15/3137735**

**Crouchland Farm, Rickman's Lane, Kirdford, Billingshurst, West Sussex RH14 0LE**

- The appeal is made under section 195 of the Town and Country Planning Act 1990 as amended by the Planning and Compensation Act 1991 against a refusal in part to grant a certificate of lawful use or development (LDC).
  - The appeal is made by Crouchland Biogas Ltd against the decision of West Sussex County Council.
  - The application Ref WSCC/036/15/PS, dated 14 May 2015, was refused in part by notice dated 9 October 2015.
  - The application was made under sections 191(1)(a) and 191(1)(b) of the Town and Country Planning Act 1990 as amended.
  - The use and development for which an additional certificate of lawful use or development is sought is the use of existing silos on Crouchland Farm for the storage of imported feedstock for the Anaerobic Digester Facility at the farm and various items of operational development connected with the production and processing of biogas, electricity and digestate on an area of land in excess of that included on the LDC dated 9 October 2015 issued by West Sussex County Council.
- 

### Decision

1. The appeal is allowed in part, in respect of the containers for the conditioning of biogas and its exportation, and attached to this Decision is a certificate of lawful use or development describing the extent of the existing use and development operations which are considered to be lawful. For the avoidance of doubt, this certificate covers items in addition to those included on the certificate granted by West Sussex County Council on 9 October 2015.

### Appeal site and planning history

2. The appeal site is a dairy farm covering some 460 acres in countryside outside the hamlet of Kirdford. Another 1066 acres elsewhere are rented by the owner of the land and are used in conjunction with the farming business. In terms of built development, the site includes several large cowsheds and a barn, 2 circular containers for biogas production, a 30m diameter biogas tank, 4 containers, a separator unit and flare and various other equipment<sup>1</sup> associated with the use of part of the site as an anaerobic digester (AD) facility and biogas plant, processing slurry and other feedstock into methane gas. At present the biogas is used either to fuel an engine to produce electricity, which can be exported to the national grid or, after treatment, for export to use as fuel elsewhere.

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<sup>1</sup> As shown on plan 1387/D006 V5 Hearing document 8(5) p163

3. Away from the main yard where this equipment and buildings are sited, there are 3 man-made lagoons used for storing liquid from the operations on the farm.
4. Of particular relevance to this appeal are a number of planning applications and permissions in respect of development related to the storage and treatment of farm slurry and the creation of an AD facility.
5. In 2007 permissions<sup>2</sup> were granted by the District Council for a *'new silo for additional slurry storage to comply with amended NV2<sup>3</sup> regulations'* and *'replacement silo for additional slurry storage to comply with amended NVZ regulations'*. There were no conditions imposed on these permissions other than the standard commencement condition. An additional planning permission<sup>4</sup> was granted in 2008 for the *'siting of 3 no. portable containers associated with the harvesting of methane from silos granted permission as PS/07 04917/FUL and PS/04916/FUL. One houses control room, one houses gas washing plant, one houses engine.'* Again, there was only the standard commencement condition imposed.
6. In 2011, further planning permissions<sup>5</sup> were granted for the *'siting of four metal containers to aid gas conditioning for biogas plant and the 'replacement of existing slurry/dirty water lagoon with underground concrete store'*.
7. In 2014 an application<sup>6</sup> was made seeking to regulate the installation of some of the equipment noted above that did not benefit from any planning permissions. It was for a *'proposed upgrade of an existing facility to enable the export of biomethane to the national gas grid, installation of a new digestion tank, two new CHP engines, digestate lagoon and associated infrastructure'*. This was refused and is subject to an appeal that will be heard following the outcome of this case.
8. The application for the LDC that is the subject of this appeal was intended to clarify the position on the extent of the lawful development on, and uses of, the **site in order to set a 'baseline' position against which the** appeal against the refusal of the 2014 application can be considered. It was granted in part only by the County Council and this appeal concerns those items that were excluded from the certificate and which the appellants now seek to have included.
9. These matters are the conditioning and exportation of biogas, the importation of waste and any other materials to feed the digester and items of operational development (2 metal containers for gas conditioning, the separator and the flare).
10. The appellants also challenge the exclusion of the land rented by the owner of the Crouchland Farm premises and operated as part of the farm business from the certificate, in respect of the importation of feedstock from this land for use in the SAD facility.

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<sup>2</sup> Refs: PS/07/04916/FUL & PS/07/04917/FUL

<sup>3</sup> This should be NVZ (nitrate vulnerable zone) and I will make this correction in all future references where 'NV2' was mistakenly used for NVZ

<sup>4</sup> Ref: PS/08/02511/FUL

<sup>5</sup> Refs: PS/11/02514/FUL & PS/11/04982/FUL

<sup>6</sup> Ref: WSCC/042/14/PS

## Main Issues

11. I consider the main issue in this case is whether the Council's refusal in part of the application for a LDC was well founded. In particular, whether the previous planning permissions have authorised a change of use of the land at the farm to include use as an AD facility that can operate independently from the agricultural uses thereon and accept feedstock from outside the land included within them.
12. In addition to these considerations, a group of local Parish Councils (PCs) have raised challenges to the legality of the development included on the 2015 LDC and asked me to vary it to refuse the application in total. They have also made submissions that the 2007 and 2008 planning permissions have not been validly implemented.
13. Their position on these matters is not supported by either the County or District Councils. These 2 Councils do, however, agree with the PCs that the 2011 permission has not been implemented by the development that has taken place on the site.

## Reasons

### *Scope of this appeal*

14. Before I consider whether the development that has been excluded from the LDC is, in fact, already authorised I will address the question of whether it is within my jurisdiction to vary the LDC, other than by adding items to it that were included on the application but were not agreed by the Council to be authorised. The starting point for this is s.191 of the Town and Country Planning Act 1990 (as amended) (TCPA) which deals with the lawfulness of existing development, and is therefore relevant to this case. Part (6) states ***'The lawfulness of any use, operations or other matter for which a certificate is in force under this section shall be conclusively presumed.'***
15. S.191(4) allows the local planning authority (LPA) to modify the terms of the application, and to issue a certificate in somewhat different terms to those applied for, so that it accords with the facts and evidence, rather than issuing an outright refusal. This power is also granted to the Secretary of State or the Inspector in the case of an appeal.
16. S.195(1) goes on to explain: ***'Where an application is made to a local planning authority for a certificate under section 191 or 192 and (a) the application is refused or is refused in part ..... the applicant may by notice appeal to the Secretary of State.'***
17. S.195(2) states ***'On any such appeal, if and so far as the Secretary of State is satisfied (a) in the case of an appeal under subsection (1)(a), that the authority's refusal is not well-founded ..... he shall grant the appellant a certificate under section 191 or, as the case may be, 192 accordingly or, in the case of a refusal in part, modify the certificate granted by the authority on the application.'***
18. The Counsel for the PCs submits that the wording of s.195(2) puts no limitation on the extent to which an LDC can be modified at appeal and that an Inspector has the power to review more than just the items that have been refused inclusion on the certificate.

19. In *Cottrell v SSE and Tonbridge and Malling BC [1982] JPL 443 (J.391)*, referred to by the parties, it was held that the Secretary of State or Inspector cannot be compelled to issue a certificate when s/he is of the opinion that one should not be granted. However, that case referred to a situation where a certificate had been refused and the Inspector subsequently dismissed the appeal against that decision but on different grounds to those originally considered by the LPA.
20. That is a different situation to the one before me, where the PCs are asking me to overturn the decision in respect of the items already granted a certificate. This case concerns the validity of the refusal to include certain items and it is on that basis the appellant has appealed. In *Cottrell*, Woolf J found that there was a distinct difference between the powers of the Secretary of State when determining an appeal against a refusal of a LDC and that available to him when considering a planning appeal, where the application can be considered as if it had been made to him in the first instance.
21. However, he also stated '*In particular, if a certificate is granted in respect of part of the land and an appeal is made to the Secretary of State by the applicant in respect of the remaining part of the land, then the Secretary of State has no power to revoke the certificate relating to the part granted by the planning authority*'. The judgement goes on to state '*However, that does not mean that the Secretary of State is compelled to issue a certificate although he is of the opinion that no certificate should be granted*' and it is this sentence that the PCs suggest gives an Inspector the power to grant less than already agreed by the LPA.
22. This however, is not directly relevant to the situation here. In *Cottrell*, Woolf J is not contemplating the revocation in whole or part of a certificate already issued. He was considering whether, if the original reasons for refusal were found not to be well founded, the certificate would have to be issued. He concluded that if the refusal was nonetheless well-founded, for other reasons, there was no compulsion for a decision taker to reverse the original decision of the LPA. Although this is a case brought under a previous version of the TCPA and related to the area of land involved, the relevant wording of the current Act has not changed since that time.
23. In my view, the wording of the TCPA is clear. Appeals can be made against the refusal, in whole or part of the application and the decision taker can, if it is found that the refusal is not well founded, modify the certificate as issued. These phrases are linked and there is no provision for the converse situation i.e. revoking the grant of a certificate if the issue of it is considered not to be well founded. Therefore, I conclude that the principle that there is no jurisdiction for the decision taker at appeal stage to revoke a certificate, as set out in *Cottrell*, has not changed.
24. Consequently, the only means by which the original decision of the LPA to issue a certificate could be challenged by a third party would be by means of a judicial review, not by representations at an appeal.
25. Whilst on the topic of the **Inspector's jurisdiction**, the PCs have also submitted that the basis on which the certificate was issued in respect of the operational development, **which relied on the '4 year rule'**, was based on misleading statements and documents submitted by the appellants.

26. S.193(7) provides for the possibility of the LPA revoking a certificate in the event of it being found to be based on materially false statements or documents or the withholding of material information. However, there is no indication in s.193 that an Inspector or the Secretary of State also has this jurisdiction in a s.191 appeal. I therefore consider that there is no power that authorises me to revoke the items that the certificate has now confirmed to be lawful.

***Validity of reliance on the 2007 and 2008 permissions***

27. It was agreed by all parties that the planning permission granted in 2008 was intrinsically linked to those of 2007. The scope of what those permissions have granted is a matter of dispute between the parties but the PCs submit that the 2007 and 2008 permissions have not been lawfully implemented. The County and District Councils do not support this view, but submit that these permissions, whilst implemented, do not authorise the uses to which the site is presently being put.

28. The issue of the 2015 LDC that is the subject of this appeal is confirmation that, in the view of the County Council, the permissions have been implemented and have therefore authorised the installation and use of the 2 slurry silos and the 3 containers in the positions marked on plan CLU/036/15/PS/1, which were the subject of the 2007 and 2008 permissions.

29. I have found that an appeal against the non-inclusion of items in the LDC is not a valid route through which the original issue of the certificate can be challenged, for the reasons set out above. In this case, the certificate specifically states that the items and uses noted above are lawful because the permissions have been implemented and properly interpreted. Taking into account a finding other than this would be tantamount to challenging the lawfulness of the certificate, contrary to s.191(6) and is not an option that I find is open to me. A consideration of whether or not these permissions have, in fact, been implemented is consequently not within the remit of this appeal and any challenge to the certificate on this basis would need to be through alternative proceedings.

***The scope of the 2007 & 2008 permissions***

30. There is some limited agreement between the main parties on the scope of the 2007/8 planning permissions in respect of Crouchland Farm. The appellants agree that the 2007 permissions did not authorise the construction of an operational AD facility<sup>7</sup>. They rely on the 2008 permission that specifically mentions the 2007 permissions and they say, these, when taken together, authorise a change of use. If accepted, this would mean that after the 2008 permission was implemented, the farm was in a mixed use of agriculture and as an AD facility that was not ancillary to the agricultural use.

31. The applications and plans are specifically referred to in the wording of all the permissions and these documents seem to me to support the submission by the County and District Councils that they are for development related to an agricultural use. The new and replacement silos were said to be needed to allow the farm to comply with new NVZ regulations that were to be introduced and which would require increased capacity for the storage of slurry produced on the farm.

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<sup>7</sup> Paragraph 4.2 of Appellants' comments on Dr. L Gornall's Report

32. The application forms state in box 5(a) that the proposed development is not for any industrial or commercial purposes and while, in application PS/07/04916/FUL, box 5(c) (which asks if the application is for an agricultural building or dwelling) has not been completed, the linked part 6 of the form has been filled in and this is only required if the building is for an agricultural, horticultural or forestry need.
33. In addition, application PS/07/04917/FUL (for the replacement silo) has confirmed in box 5(c) that the application is for an agricultural building. The **use of the land is described as 'farmyard'** in both applications and there is no suggestion that the silos for which the permissions were sought were for anything other than storing slurry produced on the farm. There is no specific mention of an application for a change of use to an AD facility at this stage and the silos would be ancillary to the agricultural use, to which there would consequently be no change.
34. In the case of the 2007 applications, I therefore find that the silos were clearly related to the agricultural operation of the farm and this, in my view, is supported by all the information submitted with them. Thus the 2007 permissions did not authorise a change of use to a mixed use for agriculture and for silos with a separate and unrestricted use for storage. Consequently there was no need to impose a condition limiting the use as the applications did not authorise any change away from the existing situation.
35. Turning to the 2008 permission, having found that no change of use was granted by the 2007 permissions and taking into account the agreement that the permissions are linked I consider that, once again, no change of use has been granted in respect of the use of the silos. They remain ancillary to the agricultural use and the 2008 permission allows only the siting of 3 portable containers associated with the harvesting of methane from them. The methane collected can then be used to power the engine of the combined heat and power (CHP) facility in one of the containers and the energy generated can be used on the farm or exported to the grid.
36. The application form notes that the activities and processes that the machinery would carry out are burning methane to create electricity for the national grid and anaerobic digestion, which is included in relation to the silos permitted in 2007. Although the application is apparently made because advice from the planning officer had indicated that the containers were not permitted agricultural development, I find that this does not necessarily mean that the processes carried out could not be ancillary uses to the agricultural use of the farm.
37. The comment by the planning officer was advice only and such advice is given on a **'without prejudice'** basis. It was consequently not determinative and I consider that, again, the operation described remains ancillary to the agricultural use. It is directly related to, and makes use of, the materials produced on the farm through the agricultural processes carried out there. I can find nothing that authorises a change of use of the land or buildings or consequently permits the importation of additional material to feed a commercial AD or biogas facility.

38. I consider that the suggestion that there is no constraint on where the material stored in the silos can originate from, based on the case of *I'm Your Man Limited v SSE [1999] 77 P.&C.R.251*, does not apply in this case. *I'm Your Man* concerned the question of whether a condition that restricted a permission granting a change of use could be implied from the description of the development and it was found that it could not. Here I have found no material change of use has occurred and the *I'm Your Man* principle is consequently not engaged.
39. Instead, it is S.75(2) of the TCPA that indicates there is a restriction on the use of the silos. It says that, where planning permission is granted for the erection of a building, the permission may specify the purpose for which the building may be used. If no purpose is specified the permission will authorise the purpose for which it is designed. The original permissions for the silos, and the applications on which they are based, make specific reference to their use in relation to the NVZ regulations which are, in turn, related to land in an agricultural use.
40. For this and the other reasons set out above, I consider that the 2007 and 2008 permissions are clear in stating that they are for uses that are ancillary to the agricultural use of the farm and s.75(2) therefore applies. This consequently supports the view that there has been no change authorised that could, or would need to, be limited by condition.

#### ***The land covered by the LDC application***

41. At this point, it would be appropriate to consider the extent of the area from which material can be drawn to feed the AD facility. The LDC specifically includes only the land edged in blue on plan CLU/036/15/PS/2, which is the freehold ownership, thereby excluding the rented areas. The freehold land is centred around the built development at Crouchland Farm but the rented land is, in some instances, located several miles away.
42. I consider that the AD facility and biogas plant were constructed to deal with the disposal of waste arising from the land surrounding the Crouchland Farm premises, as shown on the LDC plan. The rented land was not included on the 2007/2008 or 2011 site plans and, whilst it may form part of the overall business holding, there was no suggestion in the previous applications that permission was sought for the importation of slurry or feedstock from land outside the Crouchland Farm freehold.
43. As was pointed out at the Hearing, a business is often spread over several locations and this does not mean that planning permission for an activity or development granted on one site is applicable to others or confers a right to transfer uses between them. Whilst there may be business connections between the sites, the physical separation between them is such that, in my view, the rented land does not have a direct functional link with the ancillary uses associated with the Crouchland Farm premises and is not part of the land for which planning permission for the AD facility was granted.
44. In this case, I therefore find that the permissions for ancillary built development at the Crouchland Farm freehold land authorise the treatment of feedstock that arises from that land only. Consequently, importation of feedstock from outside this land would not be authorised by the 2007/2008 or 2011 permissions and the decision of the County Council to exclude the rented land was well founded.

### *The 2011 permission*

45. The appellants submit that the 2011 permission relating to the 4 storage containers has been implemented by bringing 3 of these containers onto the land and siting them in the general location of those shown on the approved plans, which have been incorporated into the permission by condition.
46. The containers have since been used in the conditioning of biogas, which is a process that needs to be carried out before the gas can be exported for inclusion into the national gas grid. They submit that because this process has commenced (which has been confirmed because gas is being exported from the site), this is another indication that the permission has been implemented.
47. It is also claimed that the implementation of the permission has authorised the exportation of biogas from the site. The gas must be conditioned for it to be capable of use in the grid and it is submitted that the permission for equipment to carry out this process has also authorised its export, given that there are no conditions that specifically prevent this.
48. The Councils disagree, considering that the containers are not as envisaged in the application plans and that the planning permission relates to operational development only, not a change of use. It submits that any activity for which the containers are used could only be considered as having implemented the permission if it relates to that granted.
49. The containers that are presently on site comprise one single unit and another consisting of 2 linked units. The LDC excludes **'the two metal containers marked G'** on plan CLU/036/15/1 attached to the LDC. **The 'G' is sited over the 2 conjoined units but the plan is at a very small scale, all 3 are coloured in a similar manner and it is consequently not clear whether the exclusion is intended to apply to all of the containers that have been brought onto the site and which are claimed to have implemented the planning permission.**
50. However, one of the conjoined units is sited in a very similar location to that shown on the application plan, such that that any discrepancy is *de minimis*. I consider that the siting of this container, even though it is slightly smaller than that shown on the application plan, is sufficient to have implemented the 2011 permission in respect of the operational development. It is also the case that the 3 containers that have been placed on the site have a smaller ground area **than the 4 permitted and although they were described as '40' shipping containers' in the Design and Access Statement, no height for them was specified.**
51. I consider that the double and single unit containers presently on site are sufficiently similar to the development granted planning permission and should therefore be included in the LDC. This does not necessarily mean, however, that all the equipment that has been brought onto the site and forms part of the gas conditioning equipment shown as no.8 on plan 1387/D007 V5<sup>8</sup> is also authorised. This is not, however, a matter that is before me in respect of the LDC application. Also, the fact that biogas has already been exported from the site is not a determining factor in my finding that the permission has been implemented.

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<sup>8</sup> Core Document 8(6) page 161

52. Contrary to suggestions by other parties, the appellants maintain that biogas can be processed ready for export by the equipment that has already been granted planning permission. They have listed the essential and non-essential equipment for this process in paragraphs 3.2 and 6.2 respectively of the **appellants' Additional Information in respect of application WSCC/036/15/PS** dated 21 August 2015<sup>9</sup>.
53. Although there is other equipment installed on the site that is related to the biogas/anaerobic digestion facility, I am told that it is not essential to the process. Nevertheless, it does not necessarily mean that the exportation of biogas has been authorised by that permission or, as noted above, that all the equipment included on the plan is authorised.
54. One of the justifications **for the appellants'** view that the 2011 permission authorises the exportation of the biogas is that the containers are to **'aid the conditioning'** of the biogas and this implies that it will therefore be exported. Otherwise, if the gas is not processed in this way, it would, as noted above, have to be used to fuel the CHP facility on the farm that converts the energy **produced into electricity that can then be exported to the grid. The officer's** report on this application notes that the applicant states that 50% of the energy produced will be exported but this does not indicate whether this would be as electricity or biogas.
55. The 2011 planning permission has authorised equipment to process a particular product so that it can now also be used off site, with no limitations on the exportation of that product. In this case, the appellants wish to export the biogas and this is done by road, rather than by a direct connection to the grid from the farm. The use of the equipment is noted as being for gas conditioning which, I consider, implies that it will be exported and I therefore find that it must be the case that the exportation of conditioned biogas is authorised by the 2011 permission.
56. This does not however, apply to the importation of material to feed the AD or biogas facility from other sources. I have concluded that the installations that have been granted permission are ancillary to the agricultural use of Crouchland Farm, limited to the land shown on the applications, and this does not include a change of use to what would amount to a commercial facility that could operate independently from the remainder of the farm site and draw its raw material from elsewhere. Under the current planning permissions, any feedstock for the facility would therefore need to be drawn from the farm and the importation of other material is not authorised and will not be granted a LDC.

### **Separator**

57. I turn now to the other items of operational development that are the subjects of the appeal. Firstly, the separator which consists of 3 individual units sited at high level in a purpose built structure and connected to a separate digestate holding tank. The appellants do not dispute that the structure housing the working parts has been erected within the past 4 years but claim that the actual separator equipment has been on the farm for many years.

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<sup>9</sup> Core Document 8

58. I saw that the housing for the separator equipment is substantial permanent built development and, although the appellants claim that it amounts to a replacement of parts that had come to the end of their useful life, I have been shown nothing to indicate that there was previously anything of this type in the current location.
59. In fact, an aerial photograph verified as dating from May 2013, shows a much smaller, uncovered structure adjacent to the holding tank. I consider that while the operating machinery may have been on the site for more than 4 **years, the overall structure labelled as the 'separator'** <sup>10</sup> on which it is located requires planning permission, which had not been granted at the time of the application.

### **Flare**

60. The flare is a safety device used for the burning of excess gas should the pressure fluctuate to a dangerous level. The Councils say that this equipment is a permanent fixture that does not benefit from planning permission, neither has it been on the site for long enough to be immune from enforcement action. The appellants say that the equipment is moveable plant that should not be considered as development requiring planning permission.
61. The test for whether such equipment amounts to operational development is one of fact and degree, based on size, permanence and degree of affixation to the land on which it stands<sup>11</sup>. The flare is a large piece of equipment and there was no dispute that, although it is capable of being moved about the site and had been so moved in the past, once the installation was complete it was intended to remain in one place, connected to the gas conditioning equipment. It would therefore be a permanent fixture of substantial size that, whilst moveable when disconnected from the pipework, would not be intended for any regular repositioning.
62. I therefore conclude that it amounts to operational development that requires a grant of planning permission to authorise it, which, at the time of the application for the LDC had not been obtained. Neither was it claimed that it had been in position for more than 4 years at the date of application.

### **Conclusions**

63. For the reasons given above I conclude, on the evidence now available, that **the Council's refusal to grant a certificate of lawful use or development in respect of the two metal containers to aid gas conditioning for biogas plant, marked G on the plan attached to the LDC and the conditioning and exportation of biogas was not well-founded and that the appeal in respect of these items and activity should succeed.** I will exercise the powers transferred to me under section 195(2) of the 1990 Act as amended.
64. In respect of the separator and the flare, marked H and I respectively on the plan attached to the LDC, and the importation of waste and any other materials for anaerobic digestion from land outside the boundaries of Crouchland Farm as shown on plan CLU/036/15/PS/2, I **conclude that the Council's refusal to grant a certificate of lawful use or development in respect of these items and activity was well-founded and that the appeal should fail.** I will exercise accordingly the powers transferred to me in section 195(3) of the 1990 Act as amended.

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<sup>10</sup> Item 11 on plan 1387/D007 V5

<sup>11</sup> *Skerritts of Nottingham Ltd v SSETR & Harrow LBC [2000]*

*Katie Peerless*

**Inspector**

## **APPEARANCES**

### FOR THE APPELLANT:

Reuben Taylor QC	Of Counsel instructed by Burgess Salmon
Leon Mekitarian	Crouchland Biogas
William Luttmann-Johnson	Site owner

### FOR THE COUNTY COUNCIL:

Charles Banner	Of Counsel, instructed by West Sussex County Council legal department
Jane Moseley	West Sussex County Council

### FOR THE DISTRICT COUNCIL:

Gwion Lewis	Of Counsel instructed by Nicola Golding, Solicitor for Chichester District Council
Reginald Hawkes	Assistant Manager, Planning Enforcement, Chichester District Council

### INTERESTED PERSONS:

Dave Jordan	Local resident
Victoria Hutton	Of Counsel instructed by Plaistow and Ifold Parish Council and Kirdford Parish Council
Sara Burrell	Chair, Plaistow and Ifold Parish Council
David Ribbens	Local Resident
Dr. Leslie Gornall	Expert on AD matters

### DOCUMENTS SUBMITTED AT HEARING:

- 1 Minutes of Plaistow and Ifold Parish Council 26/6/2013
- 2 Legal authority *Jackson v SSCLG [2015] EWHC 20 (Admin)*
- 3 Legal authorities *Bonsall v SSCLG & Rotherham BC & Jackson v SSCLG & Westminster City Council [2015] EWCA Civ 1246*
- 4 Aerial photo of site from 2013
- 5 Letters of notification
- 6 Confirmation of date of document 4
- 7 Photograph of flare being moved by fork lift
- 8 **Notes of Appellants' submissions on the implementation of the 2007/2008 permissions**
- 9 **Notes of Ms Hutton's closing submission for the Parish Councils**

## Plans

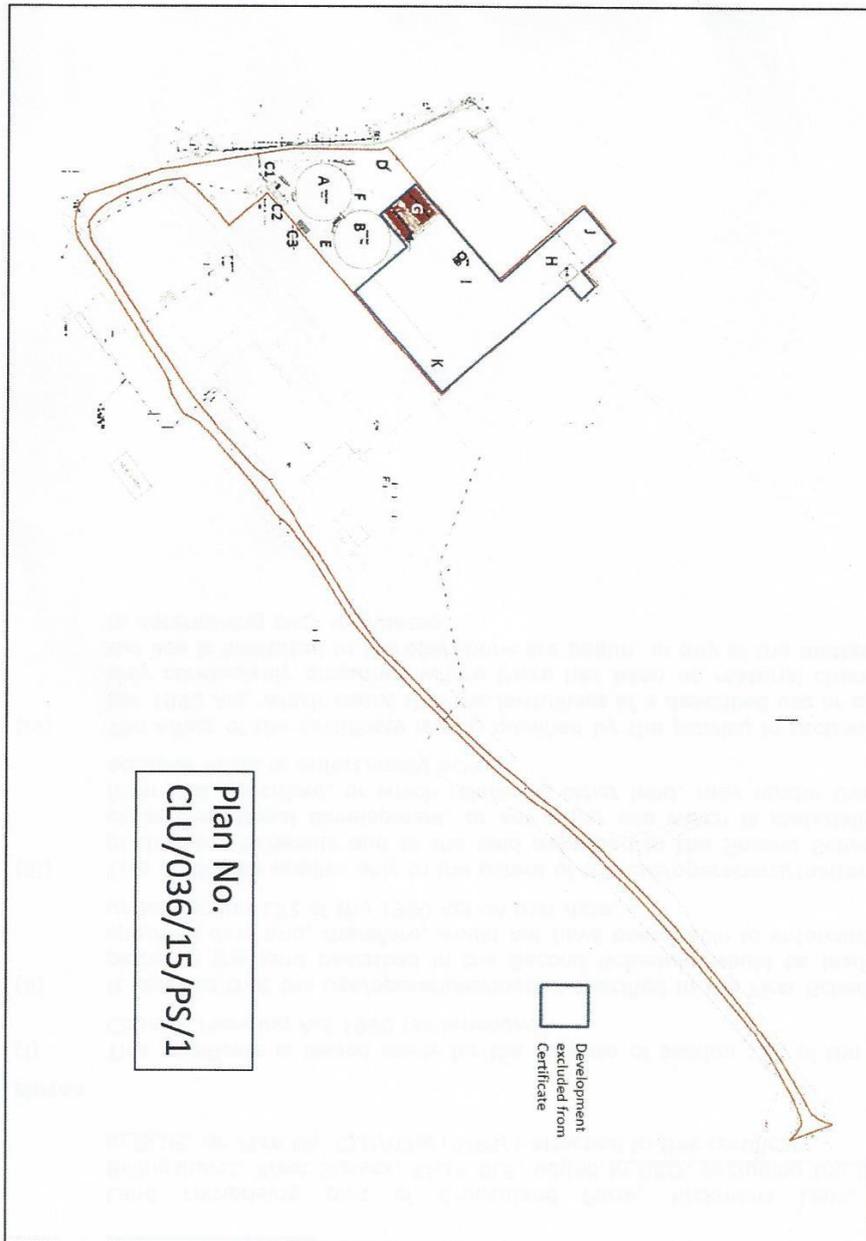
These are the plans referred to in the Lawful Development Certificate dated: 22 June 2016

by **Katie Peerless Dip Arch RIBA**

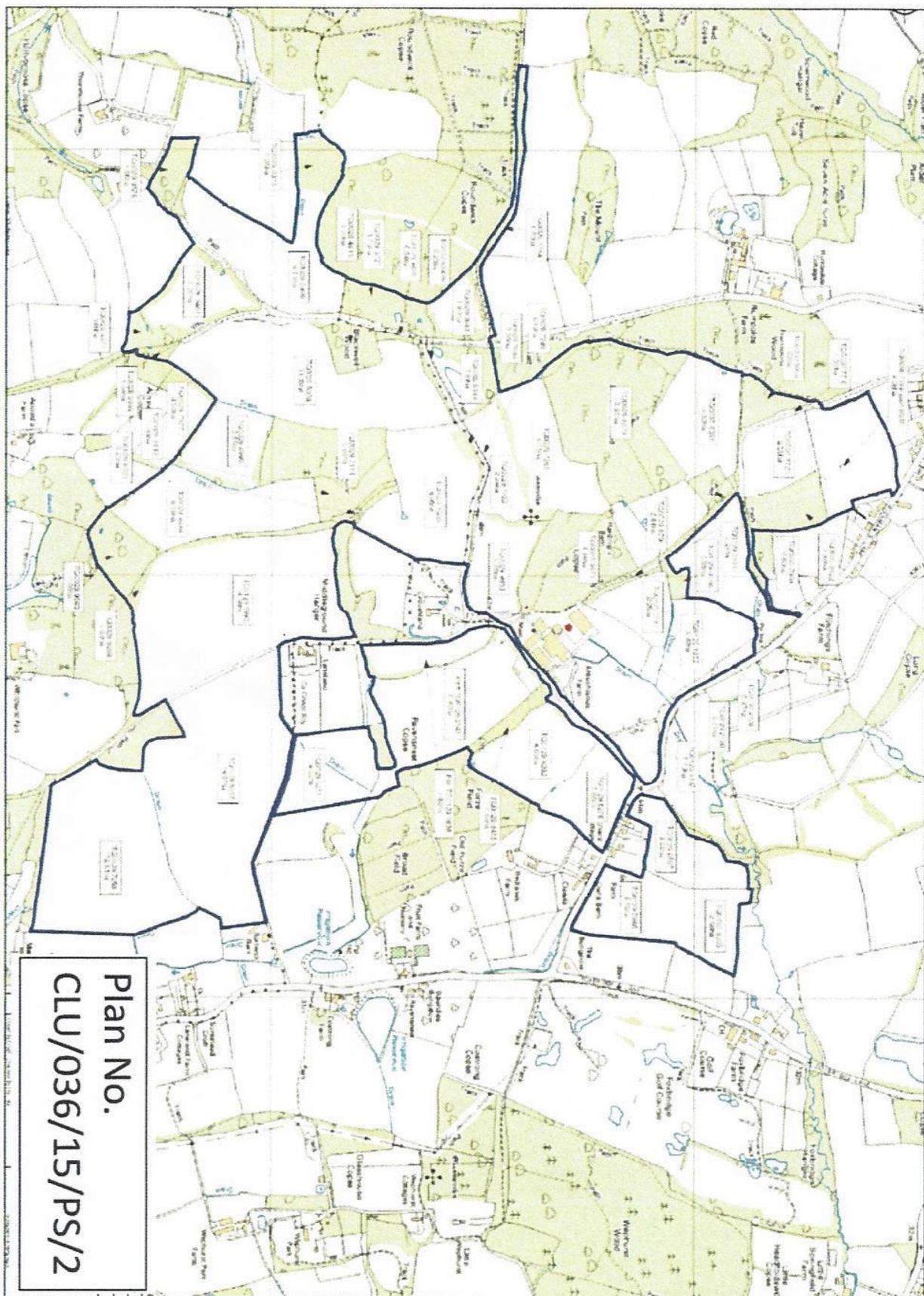
**Land at: Crouchland Farm, Rickman's Lane, Kirdford, Billingshurst, West Sussex RH14 0LE**

**Reference: APP/P3800/X/15/3137735**

Scale: NTS







## Lawful Development Certificate

TOWN AND COUNTRY PLANNING ACT 1990: SECTION 191  
(as amended by Section 10 of the Planning and Compensation Act 1991)

TOWN AND COUNTRY PLANNING (DEVELOPMENT MANAGEMENT PROCEDURE) (ENGLAND)  
ORDER 2015: ARTICLE 39

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**IT IS HEREBY CERTIFIED** that on 14 May 2015 the use and operations described in the First Schedule hereto in respect of the land specified in the Second Schedule hereto and edged in red and black on the plans CLU/036/15/PS/1 and CLU/036/15/PS/2 attached to this certificate, were lawful within the meaning of section 191(2) of the Town and Country Planning Act 1990 (as amended), for the following reasons:

In respect of item 1: planning permission for the use was granted through PS/11/02514/FUL in combination with PS/07 04917/FUL and PS/04916/FUL, which has been implemented.

In respect of item 2: planning permission for the development was granted through PS/11/02514/FUL, which has been implemented.

Signed

*Katie Peerless*  
**Inspector**

Date 22 June 2016

Reference: APP/P3800/X/15/3137735

### **First Schedule**

Item 1. The conditioning and export of biogas from land edged black on plan CLU/036/15/PS/2 attached to the Certificate.

Item 2. Two metal containers marked G on the plan CLU/036/15/PS/1 attached to the Certificate

### **Second Schedule**

Land at Crouchland Farm, Rickman's Lane, Kirdford, Billingshurst, West Sussex  
RH14 0LE

NOTES

This certificate is issued solely for the purpose of Section 191 of the Town and Country Planning Act 1990 (as amended).

It certifies that the use /operations described in the First Schedule taking place on the land specified in the Second Schedule was /were lawful, on the certified date and, thus, was /were not liable to enforcement action, under section 172 of the 1990 Act, on that date.

This certificate applies only to the extent of the use /operations described in the First Schedule and to the land specified in the Second Schedule and identified on the attached plan. Any use /operation which is materially different from that described, or which relates to any other land, may result in a breach of planning control which is liable to enforcement action by the local planning authority.

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## **The Structure and Economics of Broiler Production in England**

Andrew Sheppard

The remaining three holdings costed, one company owned and two non company owned, had characteristics that, whilst not wholly unusual, meant that they could not be included in any of the above groups. For reasons of confidentiality, it is not possible to present in this report data derived from groups of less than five holdings, so their distinguishing characteristics and all data that could lead either to their identification, or to deduction of financial or other information specific to them, has been withheld.

The groups of holdings, as characterised in the above four paragraphs, are summarised in Table 10 and information on size groups is added. In subsequent tables, size groups are merged where a single group does not have at least five holdings, and top and bottom thirds have been computed only where the resulting sub-group represents at least five holdings.

**Table 10 Distribution of flocks, by ownership, type of production and flock size**

	Size group 1	Size group 2	Size group 3	Total
<b>Non company holdings</b>				
Flock property of producer				
Conventional production	16	15	20	51
Chicks, feed & med. not charged	1	2	3	6
Other	2	0	0	2
Flock property of processor				
Conventional production	1	3	2	6
Free range production	4	1	0	5
<b>Company holdings</b>				
Conventional production	2	15	18	35
Other	0	0	1	1
<b>Total</b>	<b>26</b>	<b>36</b>	<b>44</b>	<b>106</b>

Appendix Tables A1 to A5 present much of the detail of the findings of the survey. There the data is set out by the holding type and size group categories of Table 10 and have had top and bottom thirds added. Weighted "All flock" results for non company and company holdings have also been computed. In Tables A1 and A2, weighted figures are presented that combine together all the holdings in the survey in such a way as to represent all the holdings in England. Thus it can be said, for instance, that the net margin of £3.20 per £100 value of output (or 3.0 pence per bird) was the average figure for the 600 million birds produced in England in calendar year 2002.

Table 11 provides an outline summary of the results. Whether considering the full data set or the summary, one of the most striking features is the narrow range of many of the figures across the various production types, size groups, even the top and bottom thirds. Most remarkable of all is feed conversion ratio (kg of feed per kg of liveweight output), which has a value of 1.9 for every group except the three minority contractual arrangements, one of which is free range production. The range of weights at which birds are sold is only from 2.2 to 2.6 kilograms (that is, of course, an average, individual birds on individual holdings will be sold at weights outside those limits). With the exception of the two minority

contractual arrangements that have a different cost structure<sup>4</sup>, gross margins across all production groups range only between 20.5 and 26.9 per cent of the value of output.

**Table 11 Summary of the key results of the economic survey**

	Number of flocks	Crop size	Days in unit	% mortality	Growth rate per day grams	kg liveweight at sale	kg feed per kg lwt output	Labour hrs per 1000 birds	£ cost per chick pence	£ cost per tonne of feed	£ feed per £100 output	£ Gross margin per £100 output	£ cost labour per £100 output	£ other fixed costs per £100 output	£ net margin per £100 output
<b>All flocks weighted</b>	106	83,969	47	3.8	51	2.4	1.9	4.6	22.7	145	71.4	24.6	4.1	17.3	3.2
Top third	35	86366	45	3.9	53	2.4	1.9	3.8	22.7	147	71.5	24.9	3.0	10.5	11.4
Bottom third	35	81950	49	4.2	51	2.5	1.9	5.6	22.6	145	71.5	24.6	5.0	25.2	-5.6
<b>Non company holdings, conventional production</b>															
All flocks weighted	51	63,020	46	3.8	54	2.5	1.9	4.4	23.0	147	73.1	23.0	3.4	11.2	8.4
Size group 1	16	22,751	48	3.8	55	2.6	1.9	6.9	22.3	148	74.1	21.6	5.0	13.2	3.4
Size group 2	15	63,041	45	3.3	54	2.4	1.9	4.0	23.1	145	72.6	23.4	3.1	10.9	9.3
Size group 3	20	129,564	46	4.0	54	2.5	1.9	4.2	23.0	149	73.5	23.1	3.3	11.4	8.4
Top third	17	88,037	46	3.8	56	2.6	1.9	3.3	23.2	146	71.2	25.3	2.6	9.6	13.1
Bottom third	17	63,284	44	3.6	55	2.4	1.9	5.7	22.4	153	75.8	20.5	4.7	14.6	1.2
<b>Minority contractual arrangements</b>															
Conventional production															
- flock holder owned, but chicks, feed, vaccines & medications supplied															
	6	100,115	40	4.0	54	2.2	1.8	5.4	-	-	-	90.5	20.0	50.4	20.1
- flock property of processor															
	6	78,664	45	3.2	54	2.4	1.8	5.0	23.3	147	70.6	26.0	3.9	13.1	9.1
Free range flock property of processor															
	5	21,633	56	6.3	43	2.4	2.2	14.7	-	-	-	93.1	16.3	37.7	39.2
<b>Company holdings, conventional production</b>															
All flocks weighted	35	116,544	48	3.8	49	2.3	1.9	4.2	22.5	144	69.7	26.2	4.4	21.8	0.0
Size groups 1 & 2	17	63,752	49	4.2	50	2.5	1.9	5.1	22.6	142	68.8	26.9	5.0	29.3	-7.4
Size group 3	18	166,802	48	3.8	50	2.4	1.9	4.1	22.5	145	71.0	25.0	4.3	18.6	2.0
Top third	12	158,799	47	3.8	50	2.3	1.9	3.8	22.3	145	71.1	24.6	4.1	15.2	5.4
Bottom third	12	71,955	50	4.4	50	2.5	1.9	5.2	22.5	144	70.0	26.2	5.0	32.7	-11.5
<b>Size groups</b>															
Size group 1	Average crop size of 2,000 to 39,999 birds														
Size group 2	Average crop size of 40,000 to 99,999 birds														
Size group 3	Average crop size of 100,000 or more birds														

“Conventional” is taken to be mainstream, intensive controlled-environment broiler production – see also Footnote 2 above.

<sup>4</sup> The two minority contractual arrangements with a (radically) different cost structure were 1) those of the producer owned/operated flocks where the processor provided chicks, feed, vaccines and medications but did not invoice for them, instead taking account of those inputs in the price paid for the broilers produced and 2) processor owned free range flocks on producer owned/operated holdings, where the price paid for the broilers produced was similarly reduced, but the producer did not have those variable costs. Thus, in both cases, with all major Variable Costs taken out of the calculation, Gross Margin was in excess of ninety per cent of the (much reduced) price paid for the birds.