

10 DMCE/092394/N - ON FARM ANAEROBIC DIGESTER TO GENERATE RENEWABLE ENERGY AT COURT FARM, HAMPTON BISHOP, HEREFORD, HEREFORDSHIRE, HR1 4JU**For: Mr N Layton Per Mr L Morphy, Bourne Works, Collingbourne Ducis, Marlborough, Wilts, SN8 3EQ**

Date Received: 23 September 2009 Ward: Backbury Grid Ref: 355204,238708

Expiry Date: 20 January 2010

Local Member: Councillor JE Pemberton

1. Site Description and Proposal

- 1.1 The application site lies on land within an established dairy and poultry farm on the northern edge of Hampton Bishop village, east of Hereford.
- 1.2 The proposal is to generate up to 500kw per annum of renewable energy through anaerobic digestion (AD). Provision would be made to connect to the National Grid. The development would be self-contained, comprising 2 digester units, 2 storage tanks, a reception/generator building (18.5m x 15.4m x 6.7m to ridge), silage clamps, a storage bunker and ancillary works. The material to be digested, known as 'feedstock', would be a mix of cattle slurry, manure, poultry litter and purpose-grown biofuel (maize). All feedstock would be produced within the farm holding, with no requirement for any imported material or waste.
- 1.3 Access to the farm is via a private drive from Rectory Road. No alterations to the public highway would be necessary.
- 1.4 The farm lies between the Rivers Wye and Lugg, both of which are of designated importance (SSSI/SAC). The Council issued a formal Screening Opinion on 19 August 2009 that the proposal would fall within the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (EIA), because of the sensitivity of the site. The application was accompanied by an Environmental Statement and was publicised in accordance with the EIA Regulations.
- 1.5 The application documents comprise:
 - Design and Access Statement: Explains design specification, access to the site, and process methodology.
 - Non-technical summary: Summarises the proposal in plain language.
 - Environmental Statement: Gives the background, results of pre-application consultations, policy context and appraisal, assessment of alternatives and key environmental considerations.
 - Figures and Appendices: Further data and technical details to provide an evidence-base for the Environmental Statement.
 - Scale drawings and plans for all proposed development components.

2. PoliciesNational Planning Policy:

- 2.1 PPS 1 Delivering sustainable development
- PPS 7 Sustainable development in rural areas
- PPS 10 Sustainable waste management
- PPS 22 Renewable Energy
- PPS 23 Planning and Pollution Control
- PPG 24 Planning and Noise
- PPS 25 Development and Flood Risk

Herefordshire Unitary Development Plan 2007

- 2.2 S1 - Sustainable Development
- S2 - Development requirements
- S7 - Natural and Historic Heritage
- S10 - Waste
- DR1 - Design
- DR2 - Land use and activity
- DR3 - Movement
- DR4 - Environment
- DR6 - Water resources
- DR7 - Flood risk
- DR9 - Air quality
- DR11 - Soil quality
- DR13 - Noise
- DR14 - Lighting
- E12 - Farm diversification
- E13 - Agricultural and forestry development
- LA2 - Landscape character
- LA5 - Protection of trees, woodlands and hedgerows
- LA6 - Landscaping schemes
- NC1 - Biodiversity and development
- NC2 - Sites of international importance
- NC3 - Sites of national importance
- NC7 - Compensation for loss of biodiversity
- NC8 - Habitat creation, restoration and enhancement
- NC9 - Management of features of the landscape important for fauna and flora

Other material considerations

- 2.3 Conservation (Natural Habitats, & C.) Regulations 1994 [‘the Habitats Regulations’]

3. Planning History

- 3.1 None recorded on this site.

4. Consultation Summary

Statutory Consultations

- 4.1 Environment Agency: No objection; one condition recommended to secure surface water management. Summary of comments:
 - Groundwater details and rainwater collection proposals are acceptable.
 - The site is significantly higher than the surrounding 1% flood risk area.

- The site holds an Existing Environmental Permit which could be varied appropriately to regulate the proposal. This would control emissions from the plant and any storage of raw materials, through an effective management system.
- All site operations and pollution prevention would be regulated by the Agency.
- Proposals for avoiding/minimising odour are acceptable.
- The habitat improvements and potential for significant benefits to water quality and associated species within the two designated rivers are all noted.

The above topics will be considered below.

- 4.2 Natural England: No objections; advice that planning conditions should secure the recommendations made in the Extended Phase 1 Habitat Survey.

Internal Council Advice

- 4.3 Head of Environmental Health and Trading Standards: No objection; the site would be covered by an Environmental Permit regulated by the Environment Agency. I have no comments to make regarding environmental or air quality matters.

- 4.4 Transport Manager: No objection; there would be no intensification of traffic.

- 4.5 Conservation Manager:

Landscape Officer: No objection; conditions recommended to secure final finish colour/s and appropriate planting. Lights should be directed downwards. Existing hedgerows to be protected during construction.

Planning Ecologist: No objection following receipt of the extended Phase 1 Habitat Survey; condition and informative recommended.

5. Representations

- 5.1 Hampton Bishop Parish Council: supports the proposal subject to:

- Feedstock to be sourced from within the farm;
- Vehicles to use the private farm road;
- Request for S106 contribution towards Parish Council identified priorities.

- 5.2 Five letters from local residents have been received and are summarised below. The points raised will be addressed in the appraisal in section 6 of this report.

- i) Mrs J Knipe, Upper House, Hampton Bishop raises the following points:

- Too close to residential properties;
- There will be two huge tanks storing methane gas;
- The digester system will run 24 hours a day and will create noise;
- I am not sure how pollution would be monitored;
- There will be permanent unacceptable odours;
- Household and other waste may be brought in from elsewhere;
- The system will increase vehicular movements;
- Most AD systems are located on industrial sites.

- ii) Mr K Knipe, also of Upper House, Hampton Bishop, is concerned about safety, smell, noise, traffic, light pollution, pollution of the River Lugg. He suggests that the proposal has nothing whatever to do with farming.

Further information on the subject of this report is available from Mrs D Klein on 01432 260136

- iii) GB Nairn, 15 the Park, Hereford, objects on the following grounds:
- Odour nuisance from the process and storage arrangements;
 - Road safety on the B4224;
 - Change of land use from agricultural to industrial
- iv) Mr R McLellan, 18 Braemar Gardens, Hereford explains his involvement with RAWW, a local pressure group set up to address odour issues at local sewage treatment works. Concerns are raised about the potential for odour nuisance, possible spillage during transfer operations, traffic and road safety.
- v) Mr R Keme (no address given) sent an email stating that he has no objections providing noise, odour and vehicles are properly controlled.

5.3 The full text of these letters can be inspected at Planning Services, Garrick House, Widemarsh Street, Hereford and prior to the Committee meeting.

6. Officer's Appraisal

6.1 As with any proposal, this application must be determined in accordance with the provision of the current Development Plan unless material considerations indicate otherwise. Government policy statement PPS22 on renewable energy is in force and carries weight; the Herefordshire Unitary Development Plan 2007 (UDP) remains in force but is under review with the preparation of the Core Strategy for the Local Development Framework (LDF).

Principle of the development and need for the facility

6.2 The Environmental Statement sets out the methodology for a project having a twofold purpose: to generate renewable energy and to utilise/manage cattle slurry, farmyard manure and poultry litter sustainably. The farm is stated as generating a combined annual quantity of around 6,700 tonnes of slurry and manure. Currently the cattle slurry and manure are contained in open 'weeping-wall' pits and farmyard stockpiles. About 45 tonnes of litter from the poultry houses must be removed and refreshed every 60 days. This is routinely stockpiled nearby and then spread within the farm holding as fertilizer.

6.3 Slurry and manures naturally generate methane gas and odorous compounds in the process of decomposition which, under open conditions, are released to the atmosphere. Methane in particular is a greenhouse gas twenty times more powerful than CO₂. An AD plant contains and encloses the material and the gases, using well-established technology commonly used in Europe and elsewhere. The application explains the digestion process, which results in the production of biogas to be converted to electricity and heat via a Combined Heat and Power (CHP) unit using a gas engine designed to generate up to 426KWe of electricity. The residue, known as 'digestate' or 'end-substrate' would be pumped direct to sealed storage tanks, to be used on the same farm as a fertilizer. CO₂ exhaust from this process would be less harmful than the methane that would otherwise be released.

6.4 The applicant has explained that digestate is much less odorous than raw slurry or manure and that it can help to address the county-wide requirements of Nitrate Vulnerable Zones (NVZ) in reducing farmland residues. The farm's slurry and manure waste would be complemented by about 7,000 tonnes of purpose-grown biofuel such as maize to ensure the correct mix for the chosen equipment.

6.5 Although there are relatively few on-farm AD plants currently operating in the UK, the principle and technology are tried and tested, being regarded as highly beneficial in many countries.

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Germany in particular has spearheaded this approach. PPS22 supports renewable energy projects in principle, providing guidance on relevant issues to be considered. It explains the AD process and highlights the advantages of small-scale farm units. The environmental benefits are well-documented, and the process appears to be an efficient means of managing and containing a plentiful but odorous resource. In this proposal there is no intention to import any waste or other materials.

- 6.6 Officers accept that the application has adequately demonstrated the principle of the development and the combined need to address farm animal waste and renewable energy issues.
- 6.7 Hampton Bishop Parish Council has requested this project be subject to a Section 106 contribution. In consequence the Planning Obligations Manager was consulted. In her view there is no aspect of the proposal that would require payment of monies to mitigate its impact. As there would be no net traffic increase (and a likely reduction) there could be no justification for transportation contributions and the project would not fall within any of the adopted criteria. The improved management of poultry litter and farm slurry, the reduction of nitrate run-off, and the generation of renewable energy, could all be regarded as contributing to the local environment in their own right. Therefore officers consider that in this instance a S106 contribution could not be justified.

Key issues

- 6.8 The key issues for consideration in this case are:

- Site choice and alternatives
- Air quality, including odour;
- Safety;
- Lighting and noise;
- Traffic;
- Flood risk;
- Ground and surface water quality;
- Visual impact;
- Landscape;
- Biodiversity;

Site choice and alternatives considered:

- 6.9 The application states that prior to submission the applicant considered various sites within the farm holding, technology options, feedstock and output capacities, and layout for the final scheme. These were considered using a set of criteria which included:
- Optimum distance from neighbours;
 - Siting within an existing cluster of buildings;
 - Existing landscape character, topography and screening;
 - Proximity to the sources of feedstock, i.e. central to farm operations;
 - Appropriate scale of development for the site.
- 6.10 In relation to site choice and related criteria, your officers accept the applicant's reasoning and consider that this matter is satisfactorily addressed by the application. The chosen site is close to existing large farm buildings, slurry pits and silage clamps, on an area of unused derelict ground. No other properties are visible from the application site.

Air quality, including odour

- 6.11 Odour is a matter of concern to residents; in particular there have been problems with (unconnected) plants at local main sewage treatment sites operated by the sewerage undertakers. The nearest such facility to the application site is approximately 2 km from this proposal, having a variety of sewage management systems besides AD. Whilst these worries are acknowledged, it is necessary to judge each case on its own merits. Small-scale farm AD plants of the type being proposed are not comparable with large municipal sewage treatment works having a high capacity and other processes. The application states that the proposal is specifically designed to incorporate measures to control air quality throughout the process. These include fully enclosed pipework, sealed tanks, and no gas being vented to air. Prior to entering the gas engine, the biogas would be scrubbed to ensure a clean burn and all exhaust gases would be strictly limited to ensure compliance with statutory limits. The final digestate would be pumped direct into sealed tankers to prevent any emissions. The Environment Agency would regulate the entire process including all emissions from the plant and storage of raw materials, with enforcement powers to intervene if the site were not up to standard.
- 6.12 Government policy statements make it clear that the planning system should not seek to duplicate controls that are governed by other legislation and must assume that the regulatory bodies such as the Environment Agency will fulfil their role responsibly. However, such matters can be material considerations. In this instance there are no objections from the Environment Agency; conditions are recommended to secure the proposed mitigation and ensure that the site would be capable of compliance with an Environmental Permit.
- 6.13 The proposal needs to be regarded in the context of existing farm practices, which involve the open-air storage of slurry, litter and manure and extensive movement and spreading of raw effluent. Officers consider that, by comparison, the proposal presents an opportunity to reduce existing odour impacts; there would be significant potential for improvement to local air quality in the agricultural environment.
- 6.14 The applicant proposes to set up a complaints system and site diary, to allow any complaints to be logged and compared with farm activities on the day; any substantiated problems would be addressed without delay. On this basis, officers accept that air quality would be adequately monitored and protected in accordance with policies S2, DR4 and DR9 of the Herefordshire Unitary Development Plan 2007.

Safety issues

- 6.15 Some objectors are concerned about site safety, therefore clarification is necessary. The application explains that a minimal amount of gas would be held at any one time, stored at low pressure in the top of the digester tanks, using a dual membrane gas holder seal. This is necessary in order to meet any minor flow interruptions, but there is no requirement to store large volumes of gas. The system is designed routinely to match biogas production to the CHP unit's requirements, keeping gas storage to an absolute minimum. In this proposal, the CHP unit would use around 250 m³ of biogas per hour, equivalent to the amount to be produced. Only when it entered the gas engine inlet would the gas be put under high pressure. When compressed, this volume of gas is stated to equate to about 375 litres. For comparison an average household oil tank holds about 1,000 litres.
- 6.16 The application states that the development would follow guidelines and standards from proven German technology and comply with all applicable UK safety regulations. Site management including safety would fall within the scope of the Environmental Permit, regulated by the Environment Agency as the responsible body.
- 6.17 Officers have taken advice from the EA and the Health and Safety Executive and are satisfied that the details given in the application accurately reflect the proposal in terms of site safety, including that there would be no explosive risk outside a 3m radius in the event of a venting-to-

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atmosphere leak. The farm house and cattle sheds are the nearest buildings to the site; therefore it would be in the applicant's clear interest to follow correct operational guidelines.

Lighting and noise

- 6.18 The application explains that consideration for ensuring minimal noise impact has been taken into account in accordance with PPG24. It points out that the site has been chosen to be remote from sensitive receptors, although AD is not a particularly noisy process. All plant would be fully insulated and housed within a fully enclosed acoustic building. On-site vehicles would be fitted with 'white noise' reversing alarms. The proposed complaints system and site diary noted above would also include any complaints about noise. The site would be regulated by the Environment Agency through an Environmental Permit; issues of noise would fall under this control. The Agency does not consider that noise would be an issue or cause any adverse effects. The farm already uses a variety of equipment in connection with crop, dairy and poultry unit management. The proposal would not be likely to raise existing background noise levels.
- 6.19 Some external lighting would be necessary for safe winter working. However the application gives assurance that such lighting would be directed downwards and appropriately hooded. Matters of lighting would need to be regarded in the context of existing farmyard conditions. On this basis the proposals would not conflict with UDP policies DR13 and R14, and the mitigation set out in the application could be secured by conditions.

Traffic:

- 6.20 The application includes a traffic assessment which demonstrates that, due to the crop substitution of maize instead of potatoes, there would be a likely annual decrease of 350 HGV movements, offset by an increase of 66 tractor/trailer movements. It should be noted that the feedstock would be exclusively generated within the farm, and this is reflected in recommended conditions. The animal wastes would be collected close to the application site using internal private tracks; they would not need to be transported on the B4224 or other public highways and there would be no risk of spillage on those highways. Officers therefore accept there would be no highways impact from the proposal.

Flood risk

- 6.21 The application notes initial suggestions placing the site within the Environment Agency zone 2 flood risk area. According to the applicant, further investigation and a topographical survey have shown that the farm building complex, including the application site, actually lies above the zone 2 area, being generally some 10 metres higher than the flood levels studied at the River Wye/Lugg confluence. This puts the site in flood zone 1 (low probability risk). The Environment Agency accepted these findings and has confirmed that a Flood Risk Assessment (FRA) is unnecessary, noting that the development is itself classified as 'less vulnerable' and therefore less crucial. However, the Agency notes that wider access would be restricted during a local flood event. An appropriate flood evacuation management plan is recommended, to be secured through a planning condition. With this in place officers are satisfied that flood risk factors have been adequately addressed by the application.

Ground and surface water quality

- 6.22 Part of the development would be sited below the existing ground level. The Environment Agency has accepted submitted information on local water features and groundwater depths, to demonstrate that the engineering works would not be detrimental to groundwater. On surface water, the application states that roof water from the proposed building, and run-off from the biofuel silage clamp, would be collected and piped direct to the sealed underground tank for use in the process. The development would utilise sealed units to ensure full containment. The

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Environment Agency would regulate site drainage, and has not raised any objections, recommending a condition to secure the proposed sealed drainage and interceptors. No conflicts with policies DR4 and DR6 of the Herefordshire Unitary Development Plan 2007 are indicated.

Landscape and Visual impact

- 6.23 The site lies within 'Principle Settled Farmlands' characterised by mixed farming use and which is subject to frequent changes. It currently comprises an area of derelict made ground, apparently being used for long-term storage of old vehicles, scrap metal and other equipment, some clearly discarded. The proposal would necessarily involve removal of the scrap items. The made ground would need to be remodelled to accommodate the proposed equipment, and levels would be lowered. In landscape terms the proposal would be considered an improvement, and the Conservation Manager acknowledges the chosen site's position adjacent to existing farm buildings, allowing good integration.
- 6.24 On visual impact, the farm complex has no immediately visible neighbours, the nearest being about 275 metres away in Rectory Road, which lies south of the farmhouse. The cattle buildings and other barns are to the north of the house and its garden having plentiful mature trees; the proposal site lies beyond them. The proposed tanks could be visible from higher ground to the north; however the ground only starts to rise just over a kilometre away. From that distance it is unlikely that the site could be distinguished from the cluster of existing farm buildings, particularly if the tanks were finished in a suitable colour.
- 6.25 The Conservation Manager concludes that there would be no significant landscape or visual impact, and a potential for long-term benefit. Conditions are recommended to secure final colour scheme/s, tree and hedgerow protection, and additional planting which takes account of the area's character, in accordance with policies LA2, LA5, and LA6 of the Herefordshire Unitary Development Plan 2007.

Biodiversity

- 6.26 The Environmental Statement includes a third party ecological assessment of the existing site. This takes account of nationally and internationally important sites including the rivers Lugg and Wye, Hampton Meadows, Lugg Meadows and Haugh Wood. Habitat types within the farm holding are identified. Attention is drawn to existing farm practices, including raw slurry spreading and the uncontrolled release of methane, and concludes that the proposal has a potential for good planning and management which would deliver significant improvements. This would be beneficial both on the farm itself and in terms of reductions in nutrient-rich run-off to watercourses joining the designated rivers.
- 6.27 Natural England has accepted the initial assessment but requested further information to enable an Appropriate Assessment under the Habitats Regulations. An extended Phase 1 Habitat Survey was undertaken, which considered the habitats and likely species on the farm in more detail. The report made recommendations for protection and improvements. Both Natural England and the Conservation Manager have accepted the findings of this report unconditionally and are satisfied that there would be no adverse effects on designated sites. Conditions are recommended to secure the Phase 1 Habitat Survey's findings in accordance with policies NC1, NC2, NC3, NC7, NC8 and NC9 of the Herefordshire Unitary Development Plan 2007.

7. Conclusion

- 7.1 In your officers' opinion the application brings forward a proposal which accords with current thinking on farm waste management and renewable energy, using proven technology. It would provide a valuable contribution to local environmental sustainability.

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- 7.2 The proposal has been assessed against National policy and the Herefordshire Unitary Development Plan 2007 (UDP). The site is a currently derelict part of an existing farmyard. Officers accept that there is a need for such facilities and, according to professional advice, the proposal is capable of meeting environmental standards for design and management.
- 7.3 All relevant matters have been considered, and additional information requested from the applicant and consultees where necessary, in order to establish an evidence-based view. The site would be regulated by the Environment Agency through the Environmental Permit regime, under other legislation than planning, to ensure there would be no adverse environmental effects. On that basis the proposal is recommended for approval.

RECOMMENDATION

That the officers named in the Scheme of Delegation to Officers be authorised to issue planning permission subject to the following conditions and any additional conditions considered necessary

- 1 A01 Time limit for commencement (full permission)**
- 2 B01 Development in accordance with the approved plans**
- 3 No development shall take place until final specifications for the plant and equipment have been submitted to and approved in writing by the local planning authority. The details shall be implemented as approved unless otherwise agreed in writing in advance by the local planning authority.**

Reason: To ensure a satisfactory form of development in accordance with Policies S1, S2 and DR1 of the Herefordshire Unitary Development Plan 2007.

- 4 M07 Evacuation management plan**
- 5 C10 Details of external finishes and cladding**
- 6 G10 Landscaping scheme**
- 7 G11 Landscaping scheme - implementation**
- 8 G04 Protection of trees/hedgerows that are to be retained**
- 9 I55 Site Waste Management**
- 10 No development shall take place until a detailed method statement for setting up and maintaining a site diary and complaints system has been submitted to and approved in writing by the local planning authority. The scheme shall include in particular, details of:**
 - i) A named appointed person having a duty to maintain the diary and complaints record**
 - ii) Site diary methodology, including the recording of daily farm activities**
 - iii) Means of receiving and recording any complaints relating to the development hereby permitted**
 - iv) Permanent location for keeping documentation, and its availability for inspection**
 - v) Details of action to be taken in the event that a complaint is substantiated**

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- vi) Provision for monitoring and review of the complaints system
- vii) Timescales for implementation and proposed period for maintaining the record.

The scheme shall be implemented as approved unless otherwise agreed in writing in advance by the local planning authority.

Reason: To ensure that any substantiated complaints would be adequately recorded and promptly addressed, in accordance with Policies S1, S2, DR4 and DR9 of the Herefordshire Unitary Development Plan.

- 11 I33 External lighting
- 12 I09 Sound insulation of plant and machinery
- 13 I16 Restriction of hours during construction
- 14 No materials shall be imported to the site from outside the landholding to be used as feedstock in the development hereby permitted, unless full details of source/s, type/s and quantities have been submitted to in advance and approved in writing by the local planning authority.

Reason: Because further consideration by the local planning authority would be necessary, to protect local amenity and ensure a satisfactory form of development in accordance with Policies S1, S2, DR2, DR4 and DR9 of the Herefordshire Unitary Development Plan.
- 15 No vehicles, which are in the control of the applicant and used in connection with the development hereby permitted, shall be fitted with reversing alarms unless those alarms are of a 'white noise' type.

Reason: To protect the amenity of local residents and to comply with Policy DR13 of the Herefordshire Unitary Development Plan.
- 16 I26 Interception of surface water run off
- 17 I28 No discharge of foul/contaminated drainage
- 18 I25 Bunding facilities for oils/fuels/chemicals
- 19 I44 No burning of materials/substances during construction phase
- 20 I46 Restriction on height of open air storage
- 21 K4 Nature Conservation - Implementation
- 22 F14 Removal of permitted development rights

INFORMATIVES:

- 1 N15 Reason(s) for the Grant of Planning Permission
- 2 N19 Avoidance of doubt - Approved Plans
- 3 N11A Wildlife and Countryside Act 1981 (as amended) - Birds

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4 N11C General

5 The peripheral wildlife habitats required as part of Condition 6 could include small pools, earth banks, stone and/or log piles to attract invertebrates and small mammals.

6 HN16 Sky glow

7 Developers should incorporate pollution prevention measures to protect ground and surface water. The Environment Agency has produced a range of guidance notes giving advice on statutory responsibilities and good environmental practice which include Pollution Prevention Guidance Notes (PPGs) targeted at specific activities. These can be viewed at:

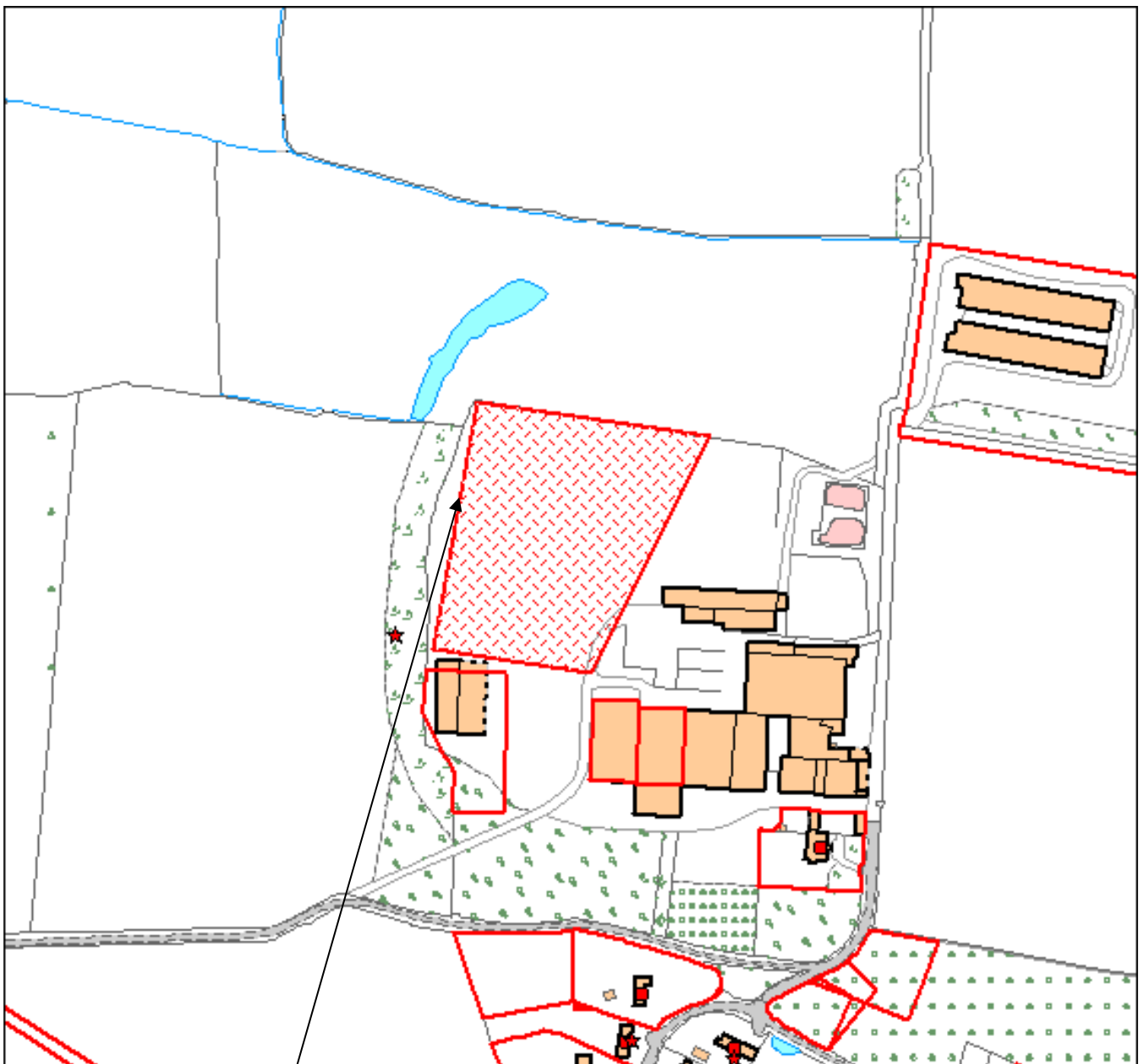
<http://www.environmentagency.gov.uk/business/topics/pollution/39083.aspx>

Decision:

Notes:

Background Papers

Internal departmental consultation replies.



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APPLICATION NO: DMCE/09234/N

SITE ADDRESS : COURT FARM, HAMPTON BISHOP, HEREFORD, HEREFORDSHIRE, HR1 4JU

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