



File Note

Project No : 182

Proposed Anaerobic Digestion Plant, Marigold Farm

Application 2023/CM/0053/LCC

1. Introduction

Michael Bull and Associates Ltd (MBAL) has been commissioned by Great Bowden Residents Management Company to advise on air quality and odour issues associated with a proposed anaerobic digestion plant at Welham Lane, Great Bowden. A planning application has been submitted to Leicestershire County Council (2023/CM/0053/LCC) for this development, and the application was accompanied by several air quality and odour assessments. MBAL has previously prepared four review documents in response to those assessments, which raised various concerns. The applicant's consultants have responded to some of these concerns, and this note has been prepared to summarise the issues raised and whether they have been resolved.

The following table summarises the outcome of this review. Where issues remain unresolved, the following sections provide further information on each matter. In addition, this note considers new planning advice from Natural England and recent case law relating to the assessment of off-site ammonia impacts from digestate spreading.

Issue noted	Response	Issue Resolved?
1. Ammonia assessment advice from Natural England was not followed. An increase in ammonia concentrations or N-deposition of greater than 1% of the Critical Level/Load triggers the need for a more detailed assessment.	An ammonia assessment was subsequently provided although some sources previously identified were not included in this assessment. MBAL considered that ammonia emissions from loading of chicken manure were likely to have been underestimated in the new assessment. An in-combination assessment has now been provided.	Partly resolved
2. Flare marked on plans but not assessed.	No assessment provided	Unresolved ?

3. Nearest receptors incorrectly identified in the odour SPR assessment.	Response was that these properties were already subject to agricultural odours and would have lower sensitivity. This is fundamentally incorrect, the occupants have no connection with the proposed AD process, odours from this process would not be an expected feature of the environment and they should be considered to be as sensitive to odours as other residential properties in the area.	Unresolved
4. Incorrect comparison of odour concentrations, implied that an 98 th odour concentration of 3 ou _E /m ³ is a just recognisable odour which is incorrect.	The most recent assessment submitted continues to make the same comparison.	Unresolved
5. Potential for cumulative impacts from other odour sources such as Market Harborough Sewage Works and JG Pears.	A response was received that stated that cumulative impacts were unlikely owing to the orientation of the individual processes. However, MBAL noted that the addition of a new odorous process would increase the frequency of odour events in the area.	Partly resolved
6. No construction phase impact assessment provided.	An assessment was subsequently provided although only in summary form and it was not possible to verify the outcome.	Partly resolved
7. Inaccuracies in the odour impact SPR assessment. Receptors not identified and source odour potential and pathway effectiveness categories were not correct.	TRC acknowledged some errors. In response to the source odour potential it was claimed that as odours from the most offensive areas of the process would only be emitted for a short period, the emissions would be minimal.	Unresolved
8. Worst case meteorological conditions not addressed.		Unresolved



9. Use of meteorological data from Wittering may not represent conditions appropriately at the site of the proposed development.	A response was received from TRC that they considered the Wittering site was representative given the flat terrain. The use of other more appropriate NWP data was suggested but this has not been undertaken.	Unresolved
10. No assessment of some activities on the proposed development such as delivery of feedstock.	Part response received from TRC which suggested the conditions referred to were abnormal operations and did not reflect the normal operation of the plant. However, the applicant does note elsewhere that activities such as loading will occur regularly for an hour each day.	Partly resolved
11. Analysis of only the wind speed and direction in the SPR assessment provides an incomplete view of the potential odour risks. This discounts the impact of atmospheric stability and modelling demonstrates a different pattern of odour risk.	Part response from TRC, however, this item remains unresolved.	Unresolved
12. Odours from storage and loading of chicken manure.	MBAL raised concern that storage and loading of chicken manure could result in odour emissions. Initial response from TRC was that the material has low odour potential as it will be stored on site for a maximum of 24 hours. MBAL disagrees with this view as chicken litter is a highly odorous material when removed from poultry rearing facilities. TRC subsequently responded acknowledging that there would be odour emissions during loading but they would be low intensity and short duration. However, other parts of the application states loading would take place for 1 hour each day.	Unresolved

13. A new Wildlife site has been designated and should be included in the assessment.		Partly resolved
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2. Issues Outstanding

2.1 Flare Assessment

MBAL noted that there had been no assessment of the air quality impacts associated with the use of the flare. This assessment has still not been provided.

2.2 Receptors included in SPR Assessment

There remains a disagreement between MBAL and TRC regarding the sensitivity of the two receptors closest to the proposed development, which were initially not identified. TRC considers that these receptors would not be sensitive to odours because they are already exposed to agricultural odours. MBAL considers that odours from an AD plant are of a different character and would not be expected by the occupants.

2.3 Incorrect Comparison of Odour Concentrations

The odour assessments submitted on behalf of the applicant discuss the Environment Agency (EA) odour benchmarks, which are based on modelled 98th percentile hourly mean concentrations, and incorrectly compare these with the descriptions of odour concentrations in Defra guidance, which are based on exposure over a period of only a few seconds. For example, the most recent assessment, submitted in May 2026, states in relation to the EA benchmarks:

“In order to provide some context to the odour benchmark values, Defra has provided the following descriptors:

- ***1ou_E/m³ is the point of detection;***
- ***5ou_E/m³ is a faint odour; and***
- ***10ou_E/m³ is a distinct odour”***

This is entirely inappropriate comparison and suggests that the EA benchmarks of 1.5 or 3.0 ou_E/m³ as a modelled 98th percentile, would not be detected by the majority of people.

The Defra descriptions are only relevant to exposure over a short period of a few seconds, whereas the EA benchmarks are based on a statistical assessment of modelled exposure, using hourly average concentrations, over an entire year. Odour concentrations fluctuate significantly within an hour, and a modelled hourly average concentration would include periods during which concentrations may reach ten times the hourly average. This is illustrated in Figure 1, which shows the observed short-term peaks in concentration from an area source¹.

¹ Environment Agency Technical Guidance Note H4 (draft) - October 2002

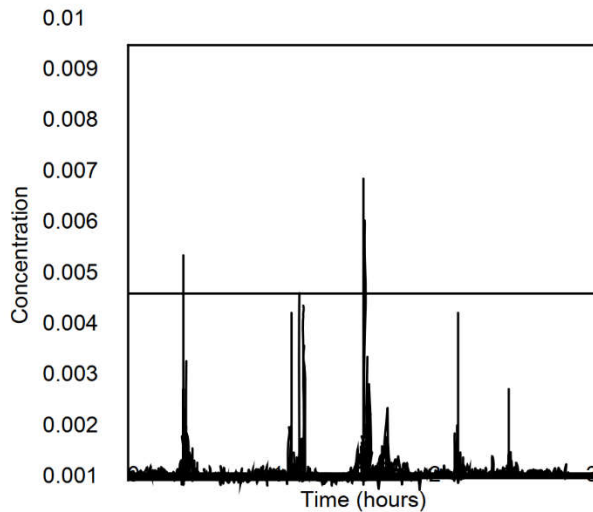


Figure 1 Observed fluctuations in concentrations

Comparing an hourly average figure with the Defra descriptors ignores these short term peaks that would result in much higher odour concentrations.

Comparing an hourly average concentration with the Defra descriptors ignores the short-term peaks that result in much higher odour concentrations.

In addition, use of the 98th percentile value means, by definition, that 2% of the hourly average concentrations over a year will exceed the 98th percentile value. These concentrations could be 10–30 times higher than the 98th percentile value.

Therefore, a modelled 98th percentile odour concentration of 1 ou_E/m³ would include short-term periods during which odour concentrations could exceed 100 ou_E/m³.

2.4 Inaccuracies in SPR Odour Assessment

MBAL considers that the SPR odour assessment did not correctly determine the Source Odour Potential or Pathway Effectiveness. Although some changes were subsequently made to the assessment, these factors remain in dispute.

2.5 Worst Case Meteorological Conditions

MBAL noted that the SPR assessments relied on an analysis of wind speed and wind direction frequencies and did not consider atmospheric stability. MBAL has undertaken modelling that demonstrates the relative odour risk around the proposed development, based on the modelled parameters used in the EA odour benchmarks. The modelling shows that the highest odour risk occurs to the north of the proposed development, where sensitive receptors are located. It also demonstrates a different spatial pattern of relative odour risk compared with that indicated by a simple assessment of wind speed and direction.

No appropriate response has been provided by the applicant's consultants.

2.6 Emissions from Storage and Handling of Chicken Manure

MBAL noted that the odour and ammonia emissions associated with the handling of chicken manure would be higher than those assumed in the assessment, as the emission rates had been based on static storage of the material. An example was provided of an assessment in which the emission

rates were increased by a factor of five to account for the increased emissions associated with handling.

TRC considered that the use of an emission factor derived from an unrelated process to represent manure handling was inappropriate. However, there is a clear mechanism by which emissions increase when manure is disturbed, as agitation of the material releases gases trapped within its voids.

This issue remains unresolved.

3. Offsite Impacts of Digestate Spreading

Natural England introduced new advice² to local authorities in October 2025 (updated 19 December 2025) with regard to air pollution and new development to assist in consideration of planning applications. This advice includes the following:

“You will need to check the ‘process contribution’ of each air pollutant the proposal will release. The process contribution is the additional pollution produced as a result of the proposed development.

You should include both:

- ***direct effects from the proposed development***
- ***any indirect effects – for agricultural developments, this could include land spreading within the relevant pollution screening distance, including on third party land”***

This advice now requires that indirect effects including from land spreading should be included within any assessment.

This advice follows from the case of *R v Surrey County Council*³ which considered whether an Environmental Impact Assessment should include the effects from downstream greenhouse gas emissions from the eventual use of extracted oil. The court determined that the council had failed to comply the EIA directive and regulations because it failed to address the indirect impacts of the development.

The relevance of this judgement was confirmed in the case of *Caffyn v Shropshire Council and LJ Cooke and Son*⁴. In this case, Dr Caffyn successfully argued that the council had failed to lawfully assess the affects of manure spreading (in digestate form).

Although the Natural England advice was not available at the time of the initial assessment, it was current during the period when further air quality assessments and information was being submitted by the applicant.

The importance of consideration of the impacts of digestate spreading can be seen by comparing the ammonia emissions directly from the AD plant that have been assessed by the applicant, with those from spreading of digestate which have not been assessed.

² <https://www.gov.uk/guidance/air-pollution-and-development-advice-for-local-authorities> accessed 1/7/26

³ <https://www.supremecourt.uk/cases/uksc-2022-0064> accessed 1/7/26

⁴ *R (Caffyn) v Shropshire Council* [2025] EWHC 1497 (Admin)

File Note**MICHAEL BULL & ASSOCIATES**
Consultants in air quality & odour assessment

The ammonia emission rate from the AD plant are reported in Appendix D of the July 2024 air quality assessment carried out by TRC. This states that the ammonia emission rate was based on a emission factor of 0.0063 g/m²/s for a source area of 39.38m². This results in an emission rate of 0.248 g/s or 7823 kg/year.

The Transport Assessment submitted with the application reports that the plant produces 30,000 and 24,000 tonnes of liquid and solid digestate a year. The emission factors for spreading of digestate used in the UK Emissions Inventory is 0.68 kg NH₃-N/tonne (equivalent to 0.825 kg NH₃/tonne). There total ammonia emissions from digestate spreading are therefore more than 44500 kg/year (i.e. more than five times greater than directly from the AD plant). These emissions have not been assessed and the Caffyn judgement would suggest that this was an omission from the EIA.

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Great Bowden Residents Management Company



Great Bowden Biogas Plant – A Review of Feedstock and Digestate Recycling Logistics

Great Bowden Residents Management Co Ltd, 6 Northfield Avenue, Great Bowden, Market Harborough, England, LE16 7GP

Date: 27/08/2026



ADAS GENERAL NOTES

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK ADAS Ltd.

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APPENDICES:

This report has been prepared by Phil Metcalfe of ADAS. **ADAS** is the UK's largest independent provider of agricultural and environmental consultancy, policy advice, and applied research. Operating across England and Wales with hundreds of specialists, it helps farmers, landowners, and government bodies balance profitable food production with environmental care.

Phil is a Chartered Agricultural Engineer and Environmentalist. He provides consultancy on crop production, harvesting, products and manures recycling to land for which he is FACTS registered. His 40 + years' experience in renewable energy includes advice on the PFI procurement of the anaerobic digester waste treatment facility at Wanlip for Leicester City Council, advice to DEFRA policy on the development of Anaerobic Digestion in the UK and continues with regulatory compliance on infrastructure for site operators.

Executive Summary

The report broadly concludes that the proposed Great Bowden AD plant planning submission may underestimate peak vehicle movements and digestate export volumes, and further evidence is recommended before the transport and operational impacts can be fully assessed.

The applicant's transport assessment relies on assumptions around maize haulage, digestate volumes, vehicle payloads and the timing of movements. Of particular concern is that maize deliveries, poultry litter movements and digestate exports are likely to be concentrated into relatively short operational windows rather than occurring evenly throughout the year. Use of an established model also indicates materially greater digestate volumes than stated by the applicant.

ADAS recommends that the planning authority seek further information on:

1. The plant's water balance and digestate mass balance.
2. Verification of digestate production volumes.
3. Separator performance assumptions.
4. Biosecurity arrangements between the AD plant and nearby poultry units.
5. Realistic peak-period traffic modelling for:
 - Maize harvest,
 - Poultry litter deliveries,
 - Digestate spreading campaigns.

1 INTRODUCTION

ADAS have been instructed, by The Great Bowden Residents Group (GBRG) and trading as Great Bowden Residents Management Co Ltd, to provide expert opinion reviewing planning documentation and transport logistics for the proposed Great Bowden Biogas Plant.

The application is for a 7MW Anaerobic Digestion Plant and the associated infrastructure, including but not limited to feedstock clamps and digestate lagoons. The feedstock is proposed as 9,000 tonnes of poultry manure, 15,000 tonnes of maize and 16,000 tonnes of straw. Harborough District Council have reviewed the application and referred to Leicestershire County Council.

Expert opinion has been requested to:

- Review relevant planning documentation and provide comment.
- Review and examine predicted vehicular movements, in terms of type and number, for maize straw feedstock and poultry litter supply to the site
- Review and examine predicted vehicular movements, in terms of type and number, for digestate removal from the site.

1.1 Approach:

An initial review of the related documents on the planning portal and council regulatory board meeting web pages to primary evaluation of the planning proposal and the operational assumptions and any gaps

Documents reviewed:

- Revised Transport Statement in C23003-TN1(REV_B) (1) (1)planning response
- Proposed Site Plans
- Development Control and Regulatory Board 7th August 2025 Report Of The Chief Executive County Matter Part A – Summary Report

Further analysis, informed by this initial review, was carried forward in the review of maize straw poultry manure feedstock supply and digestate removal from the site.

For feedstock, the types of transport and vehicles proposed to supply the projected volumes to the site near Great Bowden included review of:

- Quantities of feedstock.
- Revised Transport Statement methods.
- Vehicle load capacities and range of vehicles.
- Backloading feasibility.

For digestate, the number of appropriate vehicles required to remove solid and liquid fractions from the site was estimated for comparison with the number of movements projected by the planning proposal. The volumes of digestate that must leave the site was defined by the stated inputs of feedstock and water. Solid and liquid fractions from the separation process was allocated to appropriate transport forms.

- Proposed input volume into the AD plant.
- Proposed output volume from the AD plant.
- Revised Transport Statement methods.
- Vehicle load capacities and range of vehicle types.

1.2 Vehicle Movements

For clarity of transport movements the number of loads of feedstocks and loads of digester products (digestate fractions and carbon dioxide) as individual actions have been used in calculations. Each load inward and load outward results in a two-way journey i.e. two of vehicle movements and this is shown in section 6 of the document.

2 MAIZE FEEDSTOCK TRANSPORT

2.1 Maize transport:

15,000 tonnes required.

HGV road transport can be in two types of articulated trailer:

1. Walking Floor Trailer:

- 26t payload legal limit (<https://www.hsgplc.co.uk/our-business/services/bulk-logistics/walking-floors/>). on overall mass of vehicle and payload

-

2. Articulated bulk tippers:

- 28t payload (<https://wrightsoftwycross.co.uk/artic-bulk-tippers/>).

on overall mass of vehicle and payload

3 Tractor and trailer



Image 1 Typical maize harvesting trailers

The legal limit on tractor drawn trailers is 31 tonnes for the tractor + trailer + payload. This effectively limits the legal payload depending on the towing vehicle mass and the trailer mass. The need to travel over the field in the potentially wet conditions of late autumn determines preference of triple axle trailers by many contractors.

A number of different tractor and trailer sizes can be used in the field and to haul maize directly to the site. This will depend upon the contractor and his fleet selection. This will effectively limit the payload to 16.5 tonnes for the Fastrac that is proposed and a triple axle trailer. The majority of contractors use high powered four wheel drive agricultural tractors to haul the trailers in the field and on the road. Other trailers could be used with large twin axle trailer having a load capacity of approximately 13.8 tonnes. The sizes and capacities of this and other trailer sizes are show in Appendix 2

A fully compliant JCB Fastrac and trailer combination may legally operate at up to 64 km/h (44mph) if they meet the higher technical standards for suspension, braking and equipment for HGV. Although both are limited to 40mph on single carriageway roads HGV are capable but limited up 60 mph on motorways and are designed for these higher speeds. JCB Fastrac and other tractors with lower specification trailer combinations are restricted to 40km/hour (25mph).

Contractors tend to select a particular make of machinery for reasons of service, compatibility, price and maintenance. Tractors are used for several tasks in the farming year therefore they may choose a different brand and configuration for their tractor fleet. They may also subcontract haulage to others who will use their own machinery. It is therefore not certain that there will be exclusive use of JCB Fastracs to haul silage from field to site. Good driving and safety consideration dictates that a fully laden triple axle trailer is unlikely to cover the entire route close to the maximum speed limit.

Maize trailer:

Using a value of 0.6 kg maize/m³.

- 18t grain capacity (23m³) – 23m³ (capacity trailer) = 13.8t/trailer.
- Road spec tri axle trailer by tractor or Fastrack (40 m³) 40m³ (capacity trailer) = 24t/trailer but 31 tonne road limit
- Fastrac 4220: typical running weight about **7.6 to 9.25t**. <https://www.jcb.com/en-GB/explore/knowledge/faqs/fastrac/how-heavy-is-a-jcb-fastrac/>
- Triple axle trailer typical running weight about **7 tonnes**
- Net payload= **31 tonne limit -14.6 tonne for tractor and trailer =16.5 tonnes**

Harvesting Operations Considerations

The most likely scenario is that a single contractor is likely to harvest the whole of the Maize and that the sites close to the digester will be harvested in their entirety in sequence. Depending on the close supplying farm in the sequence of harvesting the whole of its area will be directly harvested to the digester by tractor and silage trailer. The transport proposal states that 15% of the maize is to be hauled by this method. This 15% of loads will not be interspaced with HGV silage deliveries from elsewhere so 100% of the material from the farm is transported directly to the bunker at harvest on site by tractor. This can lead to frequent load arrivals and bunching with one contractor reporting receiving three x triple axle trailers within three minutes of each other at the silage bunker.

At the average total harvest duration window of 30 days, 15% could be harvested over a 4.5 day period This relates first to the farm at Dingley (4km away) but where other nearby farms supply. Maize increase is likely. Inquiry with operators indicates that all their maize is harvested directly to site silage bunkers from distances up to 16 km. Problems from double handling from harvest trailer to HGV, increasing cost and difficult access in fields leading to

contamination of the silage with earth and stones from the re-loading operation resulted in damage at the digester. **The operator abandoned HGV delivery completely after the first year of operation and for approximately 10 years all the silage has been delivered directly by tractor and trailer.** This indicates that 15 % by tractor and trailer is optimistic and it is likely the percentage traveling directly on the harvesting trailers would increase after the first year and that all of the maize (15,000 tonnes) is harvested and transported directly.

For the purpose of this evaluation the harvesting 2250 tonnes (15% of total) in a week provides guidance of the number of daily maize related vehicle movement. If all the silage is harvested directly by tractor and trailer then the number of weeks of the higher vehicle numbers would extend to the entire harvesting month.

Using the 13.8 tonnes per load trailers 15% of the total would result in 163 loads equivalent to 33 inward loads per day over 5 days.

Using the 16.5 tonnes per load trailers this would result in 136 loads or 27 inward loads per day over 5 days with a potential peak of 34 loads over four of the days. For a 10 minute turn around onsite there would be a trailer on site for 6 out of the 12 hours of a harvest day.

The planning statement for the backloading 4,000 tonnes of solid digestate onto direct from field transport by tractor and trailer or HGV will increase the time required on the site for additional weighbridge and in particular loading with digestate solids.

The operational and cost pressures of double handling of maize silage at the field to HGVs has been described above. Transport of harvested maize from the field to deposit onto an area of concrete, usually at the farmyard for HGV transfer will also result in further vehicle movements on the public highway even for short distances. Although it will not involve travel in proximity and into the AD site the additional trailer movements will affect traffic on roads within the stated 10 km radius of supply.

3 STRAW FEEDSTOCK TRANSPORT

3.1 Straw Volume and Supply

Straw requirement is for 16,000 tonnes and is described as sourced from farms within a 40km (25 mile) radius, including farms close to Desborough, Rothwell, Corby, Kettering, and Husbands Bosworth. The amount from each farm would depend on crop rotation and contracts with the farms. The planning statement estimate is that there will be 4 daily HGV movements associated with the straw feedstock supplied on a just in time basis.

For the purpose of the assessment the number of deliveries is to be enumerated. Each delivery involves two passes (or vehicle movements)

Vehicle types

Flatbed wagons and close coupled drag (<https://eastonltd.co.uk/water-tankers-tippers-straw-wagons/>):

- 150m³ carries 36 Hesston 6-string bale
- Hesston bales dimensions – 1.2 x 1.2 x 2.4m (4' x 4' x 8') (500kg to 600kg).
- 1 load = 21.6 tonnes @600kg/bale

Flatbed articulated low loader

- 116m³ carries 33 Hesston 6-string bale –
- Hesston bales dimensions 1.2 x 1.2 x 2.4m (4' x 4' x 8') (500kg to 600kg).
- =19.8 tonnes @600kg/bale

Flatbed and close coupled drag has a capacity of 36 bales for a payload of 21.6 tonnes close to the capacity stated in the technical note C23003-TN1(REV_B) (1) (1)planning response. The Technical note does not specify the configuration but a range of vehicle types are tabulated in the revised transport technical note. This does not include the flatbed and drag.

The 18 wheel articulated trailer configuration example shown in the technical note at appendix C have a typical capacity of 33 1x2x1.2x2.44 m "Hesston" bales for a load weight of 19.8 tonnes.

The number of layers of bales in the permitted load height is limited by the highways bridge limit of 5.03 m

Table 1 Straw Bale Transport for 16,000tonnes

Trailer load Size (bales)	Bale Weight (tonne)	Tonnes/ load	Loads/ year	Loads/day (1-way) 6day week	Passes/day (2-way)
36	0.5	18	889	2.92	5.85
36	0.55	19.8	808	2.66	5.32
36	0.6	21.6	741	2.44	4.87
33	0.6	19.8	808	2.66	5.32

Assuming 600kg bales, a 2- 3 straw loads per day (1-way). (4-6 vehicle movements) This is equivalent to 50% more deliveries on half of the days than stated on the technical note.

Risk of queues.

Loading times to load 33 straw bales is approximately 20 minutes. Additional time is taken on site to drive after the entrance to and from the unloading position and to safely remove and store the load securing ratchet straps.

Weighbridge time 3-5 minutes on a manned weighbridge , automated 1.5 minutes.

Total time on site for each straw delivery vehicle is likely to be approximately 40 minutes.

With up to 3 delivery loads a day the time required will be 2 hours.

Poultry litter deliveries are equally predictable(see below) with independent supplying farms requiring rapid removal for re-stocking but could increase inputs by a further 4 or 5 deliveries in a week or fewer days if two shed clearance weeks coincide . Even with steady daily arrivals of two loads at maximum 28 tonnes (some may be 18 tonnes) of poultry manure.

Unloading time on site would be a minimum of an hour for each and biosecurity cleaning operations may extend this. There will be presence of poultry manure HGVs on the site for at least two hours

During this time there can be direct maize deliveries at a rate of up to 34 loads per day (3 per hour) over 4 days.

On the basis of each load being weighed this places pressure around the weighbridge. With up to 44 deliveries of maize, straw and litter on a day with 10 minutes to unload and weigh average. Furthermore backloading of maize trailers with

Considering the unpredictability of load arrivals and two parking bays for HGVs Queueing is likely.

4 POULTRY LITTER FEEDSTOCK TRANSPORT

4.1 Feedstock quantity and sources

Feedstock requirement- 9,000 tonnes poultry manure

The Local planning authority report of 7th August 2025 at para.216 states that for poultry manure, the proposed input would constitute 9,000 tpa. One third (3,000 tonnes) would be sourced from a nearby poultry farm(Welham lane poultry farm) situated approximately 320m to the north of the site. The report further states that there is, therefore, a link between the proposed location and some of the waste to be managed. Paragraphs 228 and 260 include LHA comment based on 3000 tonnes from Welham lane poultry farm and in the revised transport plan this is addressed as displacement of current transport arrangements for the manure to an existing digester.

Aerial images of the Welham lane poultry farm show a single poultry building that would typically produce 500-600 tonnes of manure, a relatively small proportion (6 %) of the 9,000 tonnes of this feedstock component.

As insight into volumes generated at farms, 500- 600 tonnes of manure is equivalent to 199,999 birds which is the limit before Large Industrial Emissions Directive (IED) installation environmental permitting is required – typically a single shed. There is no registered installation for the farm's postcode on the Environment Agency public register. IED Directive Environmental Permitting Regulations permit is required for intensive poultry farms. At modern permitted farms a typical layout is 4 x 50,000 bird sheds.

This size of unit is typicality determined by planning and environmental permitting conditions on emissions of ammonia. A farm with 199,999 bird places would produce approximately 3,000 tonnes and the AD site would require at least 3 suppliers at this scale.

A visual scan of aerial imagery indicates that there is not the same density of poultry units in the area as encountered say in eastern Herefordshire however a 20 mile radius may yield

¹ DEFRA (2009) Guidance for Farmers in Nitrate Vulnerable Zones Standard values, manure sampling protocol glossary Leaflet #3

the required volume including from multiple single shed operations and further distances can be travelled to secure sufficient feedstock.

For current practice 38 -40 day broiler chicken growth cycle

- 1 broiler crop: ~40 days growing + 7-14 days turnaround/clean-out
- Production cycles per year: typically 6-7 crops per shed per year.

With several independent suppliers of varying size the time scale or volume for manure removal will not be under scheduled control. Although indications are that there will be one delivery per day, vehicles will be arriving from different farms year round in clusters. The cleaning out must be completed before the sanitisation operations can commence. Deliveries of manure will be concentrated to meet contracted clearance requirements from individual and multiple farms.

All manure will have to come in along the A6 unless a direct entrance can be made to the Wellham lane for 600tonnes.

4.2 Poultry Manure Feedstock Transport

Articulated HGV bulk tippers can be used to transport the manure loaded either directly from a temporary storage on the yard at the poultry farm or a store .

- 28t payload (<https://wrightsoftwycross.co.uk/artic-bulk-tippers/>).

Table 2 Poultry Manure Deliveries

Trailer (tonne)	Payload	Criteria (tonne/ year)	Loads/year	Average Loads/day (1-way)
28		9,000	321	1

For each 39,999 - 49,999 bird shed, clearance of 85- 95 tonnes of manure 6-7 times per year will result in approximately 4-5 manure deliveries on the particular week every 7-8 weeks. This and the likelihood of more than one shed being emptied independently but in the same week increases the number of vehicle movements that might occur and coincide with straw and maize harvesting or digestate export.

Table 3 Weekly Shed Clearance Deliveries

	tonnes/1000		annual				loads /farm
birds no.	manure voided month ²	occupancy	tonnes	payload tonnes	Loads per crop	Crops per year	(1-way)
40,000	1.5	85%	612	28	22	6	4
50,000	1.5	85%	765	28	27	6	5
200,000	1.5	85%	3060	28	109	6	18
600,000	1.5	85%	9000	28	322	6	54

² DEFRA NVZ guidance and manure production

4.3 Biosecurity:

Biosecurity risks need to be appropriately outlined for the AD plant in regard to the adjacent poultry farm, where 500 – 600 tonnes of poultry manure is projected to be imported from. If this is the case, an additional pathway may connect the farm and the plant, which could promote the spread of poultry pathogens if not regulated properly.

Biosecurity measures on poultry farms are robust, with cleaning and disinfection procedures implemented for vehicles collecting livestock, manure, etc. Given how stringent poultry farms are required to be, in terms of complying with the Animal and Plant Health Agency (APHA), it should be demonstrated that the development of the AD plant will not compromise existing disease prevention measures.

The planning application states that an hour on site is required for poultry manure unloading. Additional time may be required for delivery vehicle cleaning. With two 50,000 bird sheds requiring clearing requiring at 2 deliveries per day depending on supplying site schedules there will be litter vehicles on the site and occupying parking spaces for at least two hours.

5 ANAEROBIC PROCESS AND DIGESTATE VOLUMES

Examination of the likely volumes that are placed to the process can provide insight into the digestate export for comparison with transport statement volumes.

The annual outputs stated in the LCC part A Summary report of 7th August consist of:

- Biomethane – 7 megawatts (MW)
- Liquid Digestate – 30,000 tonnes
- Solid Digestate – 24,000 tonnes
- CO₂ – 10,000 tonnes

and that whilst approximately 4,000 tonnes of the solid digestate (approximately 17% of the solid digestate) would be backhauled annually, the majority of solid digestate and liquid digestate would not.

Whereas the feedstock volumes for the sections above are defined the volumes of additional water and recirculated separated liquid digestate will affect the volumes to be transported which will in turn affect the number of journeys and the vehicles used. The practical effects on the process that must be considered include the influence that imported liquid to achieve dry matters required for the plug flow process has on the volume of the digestate that has to be transported by road to be recycled to land.

5.1 Process and Dry Matter

The described process and feedstock has been examined using an established AD model and bespoke calculation with regard to dry matter and volumetric output from the site of fibre and separated decant. See Appendix 1. Input to digester of approximately 23% DM is indicated by published data and the volumes with water addition estimated by model.

5.2 Feedstock and Water

The LPA report states *The proposal also requires circa 30,000 cubic metres (m³) – 45,000m³ of clean water annually to allow for processing. Up to approximately 15,000m³ of this comprises reused water. Any shortfall in required water volume relies on taking potable water from the utility mains supply.*

Usual practice is to re-use a proportion of the separated liquid from the digestate by recirculation into the feedstock. The volume that can be returned to the process is limited by the build-up of ammonia in the digester because excess ammonia suppresses methane production. The statement is unclear as to the origins of the re-used water and in light of the statement that up to 45,000litres of clean water is the annual usage then the 15,000 m³ water that is recirculated is in addition. This water is not clean.

Published research indicates that an inlet upper dry matter of 23% is typical of plug flow digesters.³⁴ operating with straw as a feedstock. Although this operating parameter has not been stated both the NFCC model and calculation based on dry matter suggests that the volume of fresh water and recirculated liquid that is required could be up to 60,000 m³. Up to 60,000 m³ of liquid (clean harvested rainwater and recycled decant) is added to the fresh feedstock blend as it is placed into the digester. This estimate is based on typical practice. Liquid is recirculated to achieve the desired input moisture content for plug flow within the limits of ammonia suppression of the process.

Use of the NNFC AD model and the stated volumes from the planning docs gives indication of imported and recirculated volume calculated from the short fall that is required to dilute the feedstock to the typical input dry matter (DM)

Figure 1 AD Model inputs and outputs

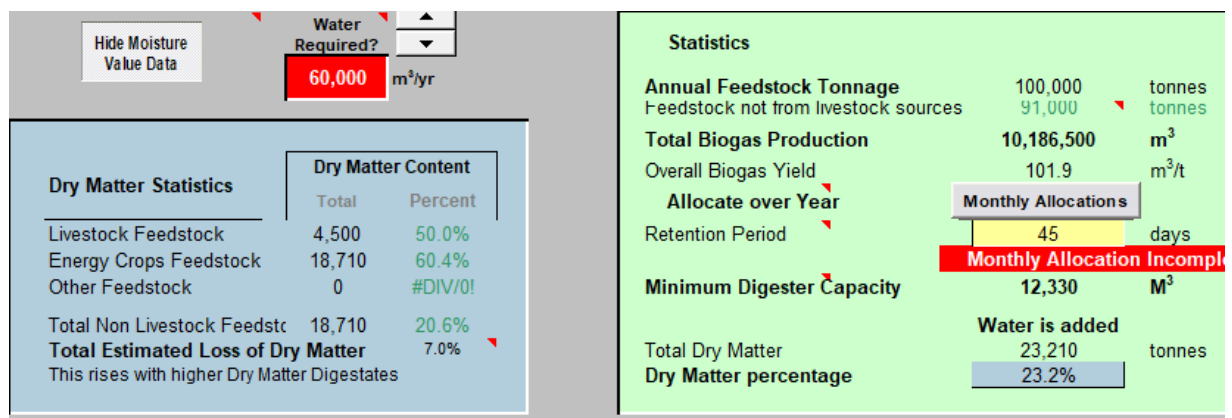


Figure 1 AD Model inputs and outputs

The proportions of the components is shown in table 4.

The 60,000 m³/year water required in the red box of figure 1 includes the recirculation of 15,000 tonnes of separated liquid digestate. This has been retained in the calculation on the basis that the designers see this as their maximum. A bespoke calculation is then used to estimate process outputs and dry matter.

³ Shohei Riya, Lingyu Meng, Yuexi Wang, Chol Gyu Lee, Sheng Zhou, Koki Toyota and Masaaki Hosomi

Dry Anaerobic Digestion for Agricultural Waste Recycling

Submitted: 26 October 2019 Reviewed: 16 January 2020 Published: 19 February 2020

DOI: 10.5772/intechopen.91229

⁴ Yanran Fu Tao LuoZili Mei Jiang Li Kun Qiu Yihong Ge Dry Anaerobic Digestion Technologies for Agricultural Straw

Biogas Engineering Research Center, Biogas Institute of Ministry of Agriculture (BIOMA), Chengdu 610041, China

Table 4 Mass Balance Estimate

Digester	mass tonnes	dm%	dm for each input and output tonnes	liquid tonnes	Total tonnes
Poultry litter	9000	50%	4500	4500	
straw	16000	86%	13760	2240	
silage	15000	33%	4950	10050	
sub totals feedstock			23210	16790	40000
biogas mass removal	12326		12326		
after digestion no addition		39%	10884	16790	27674
stated export					60,000
clean added water to system					45,000
total digestate for export					72,674
total INTO the process					
recirculated water					15,000
Digester input and dry matter		23.2%			100,000
after digestion					
Liquid vol to separator	87674				

The processed volumes and outputs as provided by the applicant have been used to compare recirculation with the available separated liquid and the resultant export fractions.

Horizontal plug-flow reactors (PFRs) operating on co-digestion of crop residues and manures typically target an operational DM of 16% to 22% inside the reactor

This would place the export quantities as high as 73,000 tonnes and increase the export vehicle requirement by 20% compared to stated.

5.3 Separator Performance

The proportions of fibre and liquid digestate affect the choice of distribution fleet.

On the basis of a slurry separator performance achieving 25% solids fibre content, the liquid : fibre ratio of solid to liquid digestate output indicated in the planning documents do not align with what might be expected. For the volumes indicated after mass loss of the biogas the fibre and decant after recirculation are estimated to be approximately 38,000 tonnes

fibre and 35,000 tonnes liquid. This has been estimated from expected performance of a screen type separator based upon the site drawings and supported by survey information on digestate. (table 5)

Table 5 Separation and exports

Separator	Whole component	DM%	Solids	DM tonne	Liquid fraction tonne
Digestate	87,674				
DM				10,884	
Dewatered solid	37,520	25%		9,380	
decant	50,154	3%		1,505	
less recirculation	15,000			10,885	
exported liquid	35,154				35,154
total fibre			37,520		
backloaded fibre			-4000		
HGV fibre			33520		
Total export	72,674				

The volumes of fibre and decant liquid differ from stated outputs. The higher volume of added water in the modelled mix has to be accommodated but is not spread evenly between fractions. The most influential variable will be the separator performance and the amount of liquid contained within the fibre output hence lower dry matter fibre will retain more of the water. The planning application drawings indicate simple presses for which the estimated performance is similar to the practical output dry matter and decant form an ADAS study on digestate distribution.

An ADAS survey of 10 digester operators on⁵ digestate distribution systems indicates that the estimation on separation fractions is representative of current performance.

Table 6 Typical total nutrient contents for farm-sourced digestate

Type	Dry matter (%)	Total nutrient content (kg/m ³ or kg/t)				
		N	P ₂ O ₅	K ₂ O	MgO	SO ₃
Whole	5.5	3.6 ^{a,b}	1.7	4.4	0.6	0.8
Separated liquid	3.0	1.9 ^{a,b}	0.6	2.5	0.4	<0.1
Separated fibre	24.0	5.6 ^c	4.7	6.0	1.8	2.1

⁵ Brassington T Evans J (2025) Anaerobic Digestate Analysis and Review - Regional Water Company January 2025

The proportions of fibre and liquid digestate affect the choice of distribution fleet. **Explanation by the applicant of the process and verification of the mass balance and the separation is recommended.**

It is recommended that the planning authority requests further information on how the projected quantities have been obtained and the measures that will be taken should the projected lower water imports do not provide a satisfactory performance of the digester.

5.4 Liquid digestate (decant)

The application states *The liquid fraction, would also be used as a fertiliser, going back on the land where the maize is grown and the residual straw is taken from, when spreading is permitted. When spreading is not permitted, it would be stored in a covered lagoon on site. The liquid digestate would generate 8 HGV movements per day.*

The results for the survey of anaerobic digester sites indicates that the majority of contractors transport the digestate by tractor drawn tanker for direct spreading on the silage field and cereal field.



Image 2 Transport of digestate by tractor drawn tanker and spreading tanker.

The most cost effective option is for short distance liquid use and longer distance (HGV) solids removal to access a bigger area.

For spreading sites within 5km tractor and tanker is likely to be preferred. Tractor drawn tankers as shown in Image 2 have a theoretical capacity of over 20m³ but are limited by the 31 tonne maximum unit weight limit for road travel. Note also that tractors have additional front end weights that further reduces payload headroom. Digestate spreading with travel distance on major single carriage way roads to sites up to 7.5 kilometres with a tractor drawn tanker has been observed.

28,000 litre tankers HGV -field site transfer to injector tanker or umbilical system

Tractor slurry tankers of 16,000litre -on site transfer to injector tanker or umbilical system

5.5 Digestate fibre

As shown above the quantity of separated solid digestate fibre is estimated to be approximately 37,000 tonnes which is 13000 tonnes more than the 24,000 tonnes on the planning document.

The area is in an NVZ so the most economical practice is to export the higher concentration of nutrient of the fibre greater distances than the liquid.

The following types of transport can be used for transporting separated digestate fibre

Articulated tippers	-28 tonnes
8 wheeler HGV tipper	-18tonnes
Tractor trailers	- 14 -18 tonnes



Image 3 Road equipped manure spreader 15.8m³ heaped capacity

An 18 tonne payload is available on 8 wheeler HGVs . Articulated HGV tippers can have a payload of approximately 28 tonnes. The former enables easier access to field storage sites and is typical of the established contractor fleet contract offer for the haulage of Biosolids ⁶ that takes place at a similar scale to the proposed digester. The same organisation offers haulage on articulated HGV tippers with a payload of 28tonnes ,although their fleet is 1/ 4 that of the 8 wheeler units. The choice of transport unit /load mass will depend upon the access arrangements at the recipient field storage sites. There is therefore expectation that

⁶ <https://wrightsoftwycross.co.uk/biosolid-haulage/>

HGV vehicle movement number for digestate distribution to field storage sites will increase over that of an exclusively HGV articulated tippers at 28 tonne payload frequency.

As outlined in section 2 backloading for 4000 tonnes onto maize delivery trailers entails time-consuming weighing and loading operations. This may not be practical in the important maize harvesting period. If the solid digestate is not backloaded these 4000 tonnes is distributed through the remainder of the year. The requirement would lead to 143 times 28 tonne more loads or 222 times 18 tonne more loads (286-444 extra movements or up to 2 per day).

The AD site will need holding capacity for separated solids. For deposit of separated fibre by HGV articulated tipper there is no NVZ limitation if depositing to compliant located field heaps although ground conditions will constrain access. Not all receiving sites will be certain to have suitable locations for field heaps. ADAS colleagues have work with an AD plant to put up a covered store for 10 months solids storage. The opportunity for backloading maize trailers only occurs for the 1 month of maize harvest.

The remaining approximately 33,000 tonnes of separated solid can be stored in the site and exported year round although this is 13,000 tonnes more than in the planning statement. This quantity will increase the average number of 28 tonne loads leaving the site to 5 per day over 50 x 5 day weeks day This represents a 50 % increase of the projected average 3 per day(6 vehicle movements) for 20,000 tonnes.

5.6 Main calendar months of spreading.

There are two main campaigns for spreading digestate.

Spring starts in February through to slowing down in May and ends in early June

Autumn starts at the end of July through to October

Reported by the studied contractors as now 75% spring applications and 25% in Autumn. This has implications for storage capacity, with 6 months storage being typical for an AD operator. Applying a 25/75% Autumn/spring ratio would imply a nine-month storage capacity requirement. Some contractors are putting storage on farms so that these can be filled all year optimising transport availability.

Therefore the number of HGV or slurry tanker loads for liquid digestate spreading will be concentrated in spring if it is to be used on the maize crop with a window of opportunity to use on autumn sown crops from July to early October as limited by NVZ regulation. (1st October on heavier land 1st August on light land). This will result in more vehicles on the road in the shorter timeframes .

One farming company with their own digester aims to apply all liquid digestate to the growing crops in spring, whilst also using the separated solids in autumn to land following harvests, before subsequent planting

Therefore if the liquid digestate spreading is concentrated into February to May inclusive then the number of daily loads is estimated to be 13 for the full volume and 10 for 75% in spring for the estimate volume of liquid or 11 and 9 for the volume suggested in the planning application.

Autumns application July to September inclusive application of 25% of the liquid fraction would be typically five loads per day for the estimated volume and four for the suggested volume in the planning document.

This is based upon the HGV only transport. If tractor drawn tankers is preferred for nearby spreading then the number of loads will be further increased. For each HGV load replaced by tractor drawn tankers there would be two tanker loads going out of the site. A 15% carriage digestate by tractor drawn tanker would result in two more loads per day over the 96 days.

5.7 Carbon Dioxide

Mass of methane and carbon dioxide have been calculated based on the model that confirms the energy output for mass of input materials and are in agreement with the planning statement predicted outputs. Export of carbon dioxide is credible and stated as unconfirmed pending potential contracts.

6 VEHICLE MOVEMENTS SUMMARY

There will be peak periods of movement:

Maize at harvest

Liquid Digestate in spring and autumn if all liquid is stored at AD site

Practical considerations of operations has identified peaks in loads corresponding to.

Intensive delivery of at least 15% of maize direct to store on smaller payloads than HGVs for approximately 1 week or 4 more weeks if 100% by tractor and trailer.

Concentration of liquid digestate loads leaving the site storage over 16 weeks in spring for 75% the annual total and 12 weeks in late summer for the remainder.

Poultry litter delivery from multiple sites in the same time frame to comply with sanitisation schedule for the production cycles.

Each delivery or removal of material requires an inward to and outward from passage at the site. In accordance with this convention table 7 presents the number of transporting vehicle movements loaded or empty. This excludes backloading.

Table 7 Estimated HGV movements* (in and out of site)

	Average daily^^ excluding maize and liquid digestate peaks	Maize harvest	Maize harvest	Maize harvest	Spreading liquid and solid 75% for 96 days at estimated volume	Spreading liquid and solid 75% for 96 days at estimated volume
	HGVs	3 weeks maize HGVs	1 week **maize tractors + other HGVs	1 month 100% maize tractors + other HGV	15% of application by tractor tanker	All by tractor tanker
					0	0
Maize tractor	0	0	68	68	0	0
Maize HGV	0	36	0	0	0	0
Straw HGV	4	4	4	4	4	4
Poultry Manure HGV	4	4	4	4	4	4
Liquid digestate tractor	0	0	0	0	6	34
Liquid Digestate HGVs	8	0	0	0	18	0
Solid Digestate HGV ^{##}	10	10	10	10	20	20
CO ₂	2	2	2	2	2	2
Totals per day	28	56	88	88	54	64

* Totals may not sum exactly due to rounding of decimals.

**Assumes maize is imported 85% 28t artic. tipper and 15% Fastrac/trailer. Also assumes straw is delivered 36 x 0.6t bales/load.

^^The effect of concentration 15% of the of maize quantity by tractor drawn trailer direct to store loads will increase the number and frequency of loads into the site (largest legal payload)has been used to forecast the daily delivery loads.

Does not include 4000 tonnes that is said to be backloaded as shown in table 5 with the resultant approximately 33,000 tonnes estimate applied in this table . The additional movements as described in section 5.5 should backloading be impractical would amount to 1-2 per day.- up to 444 per year depending on 28 or 18 tonnes loads. Storage on site would also be required for digestate solid that cannot be removed during harvest peak .

Figures 2-4 below show the relative make up of movements during the peak activities of maize harvesting direct to site by the harvesting trailer, delivery maize from distance with HGV at maximum capacity, delivery of liquid digestate by HGV tanker and 15% by tractor drawn tanker.

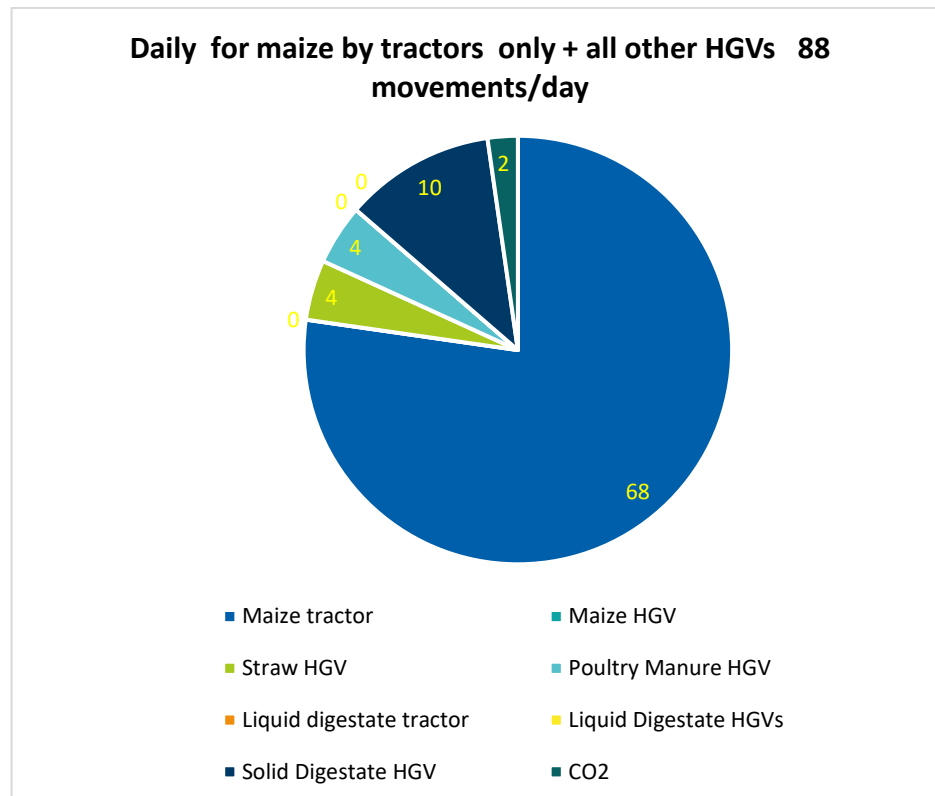


Figure 2 Maize harvest peak for direct from field by tractor 1 week 15% or 1 month for 100% of maize harvest.

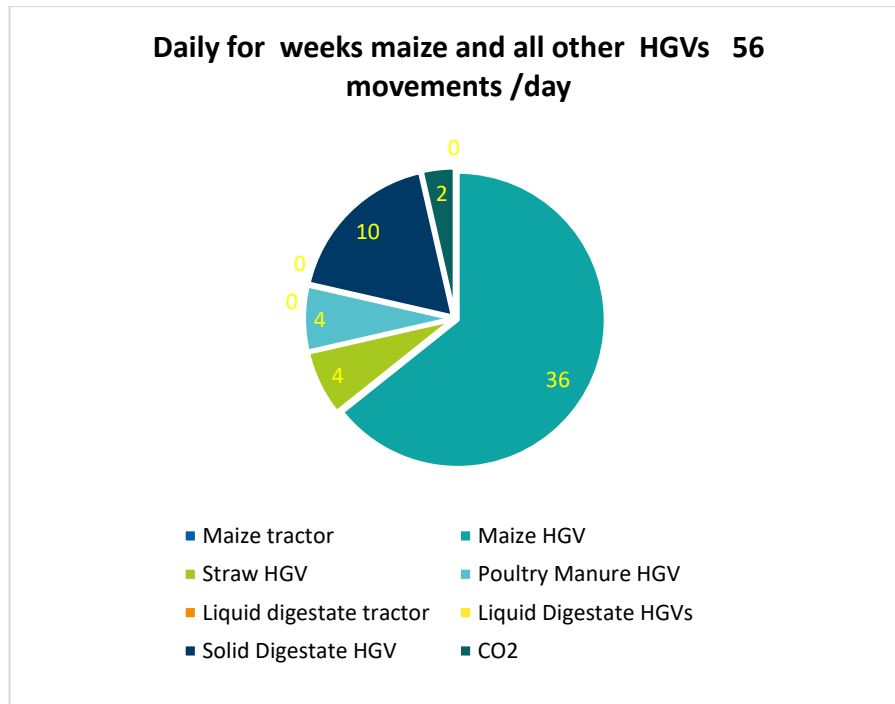


Figure 3 Maize harvest via HGV

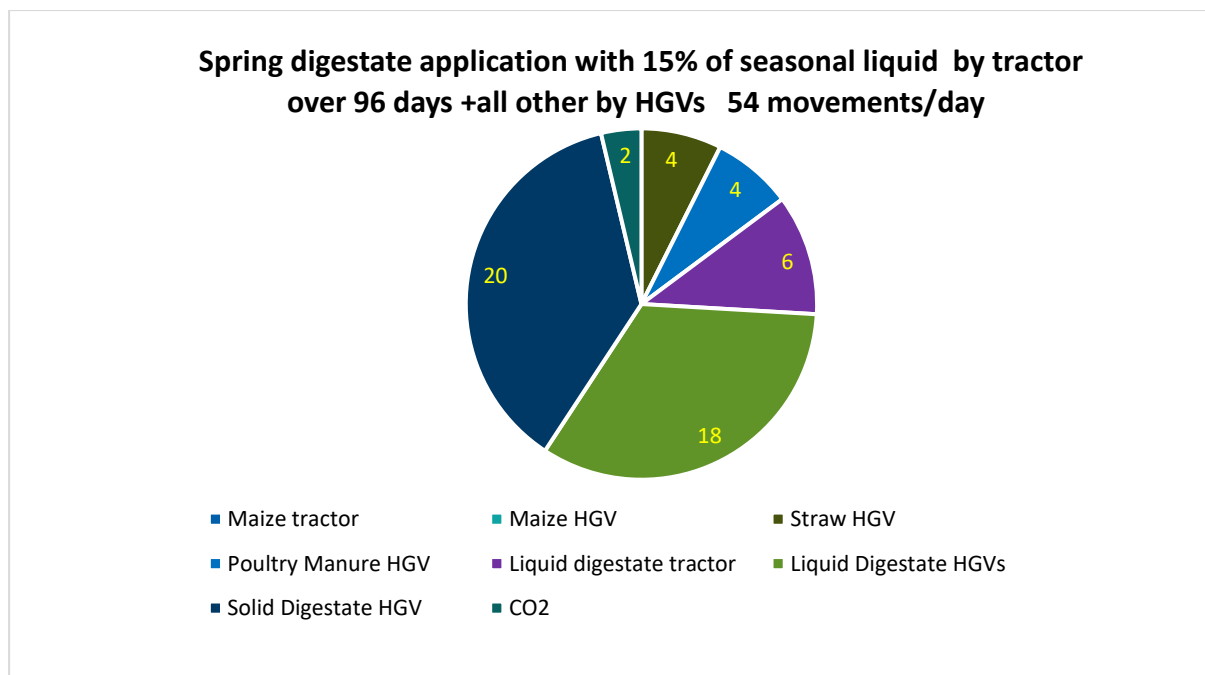


Figure 4 Springtime delivery of digestate 15 % of which is by tractor tanker

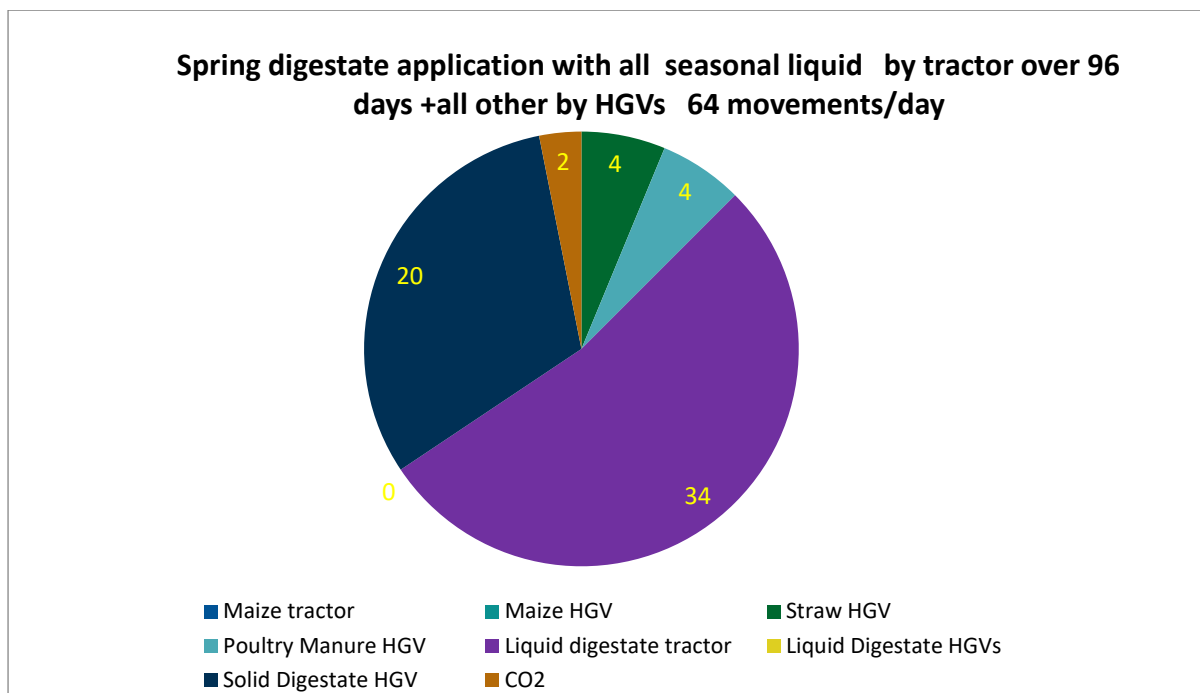


Figure 4 Springtime delivery of digestate all of which is by tractor tanker .

7 CONCLUSIONS

1. The analysis indicates that the number of vehicle movements to and from the Anaerobic digestion facility will be greater than stated in the application and TN 1 response. Particular attention should be paid to agricultural production cycles and crop nutritional requirements that will lead to concentrations of movements over a seasonal basis and over individual weeks.
2. The assumed proportion of maize transported directly by tractor and trailer is not sustainable based upon other site operator experiences with double handing to HGV. Even if the applicant's 15% assumption is retained, the practical concentration of harvesting activity results in substantially higher short-term limited capacity and speed vehicle movements than an averaged assessment suggests. Expansion of the percentage would result in extension of the peak movement level to the entire harvest period.
3. Traffic associated with maize harvest in October or digestate delivery to spreading that occurs in spring and late summer as concentrated seasonal or operational periods, will overlap with independent poultry litter and straw deliveries. The use of smaller-capacity tractor drawn trailers and digestate tankers or rigid HGVs would further increase movement numbers compared with assumptions based on larger articulated vehicles.
4. There is uncertainty over the stated digestion process water input and the requirements. Use of established process modelling and bespoke calculation with separation that matches a recent study of digestate distribution, indicates that the relative amounts of separated and solid digestate can be significantly higher than the applicant states. A corresponding increase in vehicle movements would then ensue.
5. Rigorous testing of the transport against a range of practical agricultural scenarios affecting feedstock and digestate transport against a reasonable range of operational scenarios including short term effects and a wider range of practical load weights should be carried out rather than relying on year round average at maximum capacity payload and the maize harvest average over a month.

APPENDIX 1

Feedstock and input Dry Matter

Gas Production from Feedstock

This page collects information about the feedstock and calculates the necessary digester capacity and biogas production

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[Next Page](#)

Help		Dry Matter Percent		Cost £/tonne	Biogas Yield m ³ /tonne		Tonnes /yr	Biogas M ³ per year
Livestock Feedstock	Standard Data	or Own Data		Standard Data	or Own Data			
Poultry excrement	0	50	0.0	187.5			9,000	1,687,500
	15							0
	0							0
	0							0
	0							0

Energy Crops Feedstock	Standard Data	or Own Data	Cost £/tonne	Standard Data	or Own Data	Tonnes /yr	Biogas M ³ per year
Barley straw	86		25.0	312	339	16,000	5,424,000
Maize silage	33		32.0	205		15,000	3,075,000
	0						0
	0						0

Help		Dry Matter Percent		Gate Fee £/tonne	Biogas Yield m ³ /tonne		Tonnes /yr	Biogas M ³ per year
Other Feedstock	Standard Data	or Own Data		Standard Data	or Own Data			
None	0							0
Vegetable wastes	15			57				0
Leftovers; fat-rich	18			127				0
Whole cows milk; fresh	13.5			115				0
Leftovers; Average fat	15.6			92				0

Hide Moisture Value Data

Water Required?

60,000 m³/yr

Dry Matter Statistics

	Dry Matter Content	
	Total	Percent
Livestock Feedstock	4,500	50.0%
Energy Crops Feedstock	18,710	60.4%
Other Feedstock	0	#DIV/0!
Total Non Livestock Feedstc	18,710	20.6%
Total Estimated Loss of Dry Matter		7.0%
This rises with higher Dry Matter Digestates		

Statistics

Annual Feedstock Tonnage

100,000 tonnes

Feedstock not from livestock sources

91,000 tonnes

Total Biogas Production

10,186,500 m³

Overall Biogas Yield

101.9 m³/t

Allocate over Year

Monthly Allocations

Retention Period

45 days

Minimum Digester Capacity

12,330 M³

Water is added

23,210 tonnes

Total Dry Matter

23,210 tonnes

Dry Matter percentage

23.2%

Monthly Allocation Incomplete

APPENDIX 2

Maize Feedstock Calculations:

1. HGVs:

1a 26t payload (Articulated Tipper):

Trailer Payload (tonne)	100% Criteria (tonne)	Total Loads	Loads per Day averaged over the 30 day harvest window)	Loads per Hour assuming 12 hour working day. (double this for total vehicle movements)
26	15000	577	19	1.6
Trailer Payload (tonne)	85% Criteria (tonne)	Total Loads	Loads per Day (30 day peak)	Loads per Hour
26	12750	490	16	1.4
Trailer Payload (tonne)	75% Criteria (tonne)	Total Loads	Loads per Day (30 day peak)	Loads per Hour
26	11250	433	14	1.2
Trailer Payload (tonne)	50% Criteria (tonne)	Total Loads	Loads per Day (30 day peak)	Loads per Hour
26	7500	288	10	0.8

1b 28t payload (Articulated Tipper):

Trailer Payload (tonne)	100% Criteria (tonne)	Total Loads	Loads per Day (averaged over the 30 day harvest window)	Loads per Hour assuming 12 hour working day. (double this for total vehicle movements)
28	15000	536	18	1.5

Trailer Payload (tonne)	85% Criteria (tonne)	Total Loads	Loads per Day (30 day peak)	Loads per Hour
28	12750	455	15	1.3
Trailer Payload (tonne)	75% Criteria (tonne)	Total Loads	Loads per Day (30 day peak)	Loads per Hour
28	11250	402	13	1.1
Trailer Payload (tonne)	50% Criteria (tonne)	Total Loads	Loads per Day (30 day peak)	Loads per Hour
28	7500	268	9	0.7

2. Tractor and trailer combinations:

Trailer Capacity (tonne)	100% Criteria (tonne)	Total Loads	Loads per Day (averaged over the 30 day harvest window)	Loads per Hour assuming 12 hour working day. (double this for total vehicle movements)
11.4	15000	1316	44	3.7
12.6	15000	1190	40	3.3
13.8	15000	1087	36	3.0
Trailer Capacity (tonne)	50% Criteria (tonne)	Total Loads	Loads per Day (30 day peak)	Loads per Hour
11.4	7500	658	22	1.8
12.6	7500	595	20	1.7
13.8	7500	543	18	1.5
Trailer Capacity (tonne)	25% Criteria (tonne)	Total Loads	Loads per Day (30 day peak)	Loads per Hour
11.4	3750	329	11	0.9
12.6	3750	298	10	0.8
13.8	3750	272	9	0.8
Trailer Capacity (tonne)	15% Criteria (tonne)	Total Loads	Loads per Day (30 day peak)	Loads per Hour
11.4	2250	197	7	0.5
12.6	2250	179	6	0.5

13.8	2250	163	5	0.5
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Calculated Fastrac and trailer combinations:

Net Payload	100% Criteria (tonne)	Total Loads	Loads per Day (30 day peak)	Loads per Hour
16.5	15000	909	30	2.5
Net Payload	50% Criteria (tonne)	Total Loads	Loads per Day (30 day peak)	Loads per Hour
16.5	7500	455	15	1.3
Net Payload	25% Criteria (tonne)	Total Loads	Loads per Day (30 day peak)	Loads per Hour
16.5	3750	227	8	0.6
Net Payload	15% Criteria (tonne)	Total Loads	Loads per Day (30 day peak)	Loads per Hour
16.5	2250	136	5	0.4

APPENDIX 3

Digestate Export

Liquid Separated Digestate

Assumes that digestate storage is all at the AD site, and that the AD site has more than 6 months storage

Spring spreading using HGV
tanker for transport

	Load capacity	total loads	Spread window	Seasonal	loads /week	days	loads /day
total vol m3	tonne		weeks	proportion			
35,000	28	1250	16	75%	58.6	6	9.8
35,000	28	1250	16	100%	78.1	6	13.0
30,000^	28	1071	16	75%	50.2	6	8.4
30,000^	28	1071	16	100%	67.0	6	11.2

if 15 % exports by tractor
tanker

35,000	16	375	16	75%	17.6	6	2.9
35,000	28	1063	16	75%	49.8	6	8.3

If 100% deliveries by tractor

35,000	16	2500	16	75%	117	6	20
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Autumn spreading deliveries
using HGV tanker for
transport

35,000	28	1250	12	25%	26.0	6	4.3
30,000^	28	1071	12	25%	22.3	6	3.7

Fibre Separated Digestate

transport by HGV articulated tipper

	Load capacity	total loads	Spread window	seasonal	loads /week	days	loads /day
total vol m ³	tonne		weeks	proportion			
33,000	28	1179	16	75%	55.2	6	9.2
33,000	28	1179	44	100%	26.8	6	4.5

If there are no deliveries during the intensive maize harvesting month ,average daily loads leaving the site round up to 5 per day or for seasonal delivery of 75 % of the material in spring this would rise to 10.

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Proposed Anaerobic Digestion Plant, Marigold Farm

Planning Application 2023/CM/0053/LCC

Report sections

Executive Summary | Odour & Air Quality | Transport & Agricultural Logistics | Ecology & Ammonia |
Neighbourhood Plan / Local Green Space / Important View | Renewable Energy & Sustainability | Land
Control & Deliverability | Planning Grounds | Pattern of Underestimation

Prepared by Great Bowden Residents Management Company



Welham Lane - the sole vehicular access to the proposed development and an established rural recreational route.

1. Executive Summary - Briefing for Members

THE CENTRAL QUESTION

Officers recommend approval because they judge that the benefits of the development outweigh its adverse impacts.

We respectfully believe that balance has been struck incorrectly.

The benefits of the proposal have been given substantial weight, while a number of the adverse impacts have been underestimated, insufficiently assessed or remain unresolved.

This Executive Summary and the detailed evidence that follows - including evidence from highly qualified independent experts - identify those impacts and explain why they should carry materially greater weight.

Where a material adverse impact has not been robustly assessed because the applicant's evidence is incomplete, based on unrealistic assumptions or otherwise unreliable, the appropriate response is not simply to assume that the impact is negligible or give it limited weight. The decision-maker must have sufficient reliable evidence to reach a properly informed conclusion on the likely effects of the development.

An evidential gap in the applicant's case cannot properly be converted into an assumption of no harm. Where the applicant has not demonstrated, on reliable and realistic evidence, that a material impact would be acceptable, Members are entitled to give that unresolved risk adverse weight in the planning balance.

This matters directly to the planning balance: if an adverse impact has been underestimated because the underlying assessment is incomplete or unrealistic, the harm side of the balance has also been understated.

Members are entitled to form their own planning judgement. We therefore ask the Committee to consider the evidence in this report, give appropriate weight to the adverse impacts now identified, and reach a different conclusion from officers by refusing the application.

THE COMMITTEE DECIDES THE WEIGHT

Government Planning Practice Guidance states:

"Provided regard is had to all material considerations, it is for the decision maker to decide what weight is to be given to the material considerations in each case."

Planning Practice Guidance: Determining a planning application, paragraph 009, Reference ID 21b-009-20140306.

In this case, the decision maker is the Committee. Members are therefore entitled to reach a different judgement from officers about the weight to give both the benefits and the adverse impacts identified in the evidence before them.

This includes, for example, deciding that greater weight should be given to the impacts identified by ADAS and MBAL, to the Rewilding Harborough project, or to relevant Neighbourhood Plan protections where Members consider the evidence justifies that conclusion.

The principal evidence supporting that conclusion is summarised below; the detailed report provides the supporting analysis, source material and policy basis.

The main issues

Why the independent ADAS evidence matters. Residents commissioned RSK ADAS to provide an independent specialist test of whether the applicant's transport assumptions are realistic, practical and robust in real agricultural operation. ADAS describes itself as the UK's largest independent provider of agricultural and environmental consultancy, policy advice and applied research. The review was undertaken by Phil Metcalfe, a Chartered Agricultural Engineer and Chartered Environmentalist with more than 40 years' experience in renewable energy and anaerobic digestion. Officers were aware that residents were undertaking this work before the decision was taken to schedule the application for the 14 September meeting. The completed ADAS report was then provided to the planning team; the officer report and recommendation were issued two working days later.

Residents believe the substance of the ADAS report is highly material to the Committee's decision. The report raises numerous material challenges to the applicant's transport assumptions, all of which point towards a more intensive real-world operating pattern. Yet the officer report does not meaningfully engage with the principal ADAS findings or demonstrate that they have been given appropriate weight in the

planning balance. In residents' view, the recommendation to approve therefore rests on transport assumptions which have been materially challenged by independent specialist evidence but not substantively resolved. The principal issues are summarised below and examined in detail in Section 3.

1. Transport and highway safety - independent agricultural evidence materially changes the operating picture.

ADAS concludes that the applicant has materially underestimated traffic throughout the year. Its assessment indicates substantially higher movements in every operating period, including during the approximately four-month spring digestate-spreading period, when movements could rise from the applicant's 22 per day to 64 per day - around 191% higher - and during maize harvest, when movements could rise from the applicant's revised 56 per day to 88 per day - around 57% higher. **These are not marginal differences. They represent a materially different operating pattern from that assessed by the applicant and relied upon by Highways.** ADAS also concludes that important assumptions underpinning the applicant's transport case are not sustainable in real-world operation. In particular, it states that the assumption that only 15% of maize would be transported directly by tractor/trailer **"is not sustainable on the evidence of other operators and does not reflect real-world operating experience"**. ADAS found direct tractor haulage over distances of up to 16km and identified an operator that abandoned field-to-HGV transfer after the first year because of cost, access difficulties and contamination risk, subsequently transporting all maize directly by tractor/trailer for around ten years. ADAS therefore considers that the tractor proportion is likely to increase after the first year, potentially to the whole 15,000-tonne maize requirement. Other assumptions - including payloads, digestate backloading and the concentration of movements into realistic agricultural windows - could increase vehicle numbers further. **Section 3.18 sets out the comparative traffic volumes clearly.**

The current recommended permission does not appear to cap daily vehicle movements at the levels used in the assessment. That matters because ADAS identifies materially higher realistic operating scenarios. A later cap at the applicant's projected figures would not resolve the underlying problem if those figures are themselves unrealistic; the development should be assessed against credible real-world operating conditions, and any greater impacts reflected in the planning balance.

2. Odour and ammonia - the officer assessment understates both the intensity and duration of likely impacts

Michael Bull & Associates Ltd (MBAL) identifies a series of material matters as unresolved or only partly resolved, including receptor sensitivity, interpretation of odour concentrations, weather conditions in which odour is most likely to travel towards nearby homes and sensitive sites, poultry-manure handling/loading and cumulative exposure.

First, MBAL considers emissions from poultry-manure handling likely to have been underestimated. The applicant relied on emission rates based on static storage, whereas MBAL explains that disturbing manure during unloading and handling releases gases trapped within the material and can materially increase emissions.

Second, the officer assessment appears to underestimate how long that higher-emission activity will last. The officer report discounts the significance of the acknowledged underestimate partly on the basis that loading would last no more than around 30 minutes per day. ADAS says unloading alone requires a minimum of around one hour per vehicle, with cleaning and biosecurity time additional. That is at least twice the officer assumption before those additional activities are counted. ADAS also identifies clustered deliveries and likely queueing, creating the potential for more frequent and longer release events.

Third, important cumulative and weather-related effects remain unresolved. MBAL identifies cumulative odour from existing sources including JG Pears and Market Harborough Sewage Works, and says the assessment has not adequately addressed weather conditions in which odour is most likely to travel towards nearby homes and sensitive sites, or the storage and loading of chicken manure. It also considers the applicant's comparison of hourly-average modelled concentrations with short-duration Defra descriptors inappropriate because short-term odour peaks can be far higher than the hourly average.

The result is not simply uncertainty: independent expert evidence indicates that both the intensity and duration of odour and ammonia impacts may be materially greater than reflected in the officer planning balance.

3. Country park, rewilding and ammonia - one of the Committee's two reasons for deferral remains unresolved.

When Members deferred the application in August 2025, one of the two matters they specifically asked to be addressed was the potential environmental impact on the proposed country park and rewilding project. Since then, Hursley Park has been formally designated as a Local Wildlife Site and the independently examined Neighbourhood Plan gives it Local Green Space protection. A key feature is its nutrient-sensitive wildflower meadow habitat, deliberately managed through an annual cut-and-remove programme to reduce nutrient levels.

MBAL identifies a "likely significant underestimate" in ammonia emissions from poultry-manure handling and loading because the additional emissions caused by disturbance were not properly reflected in the assessment. The Council's own independent reviewer, AECOM, accepts that failure to account for this may have underestimated ammonia emissions from the loading process. ADAS then materially weakens the officer reassurance that loading is short-lived: it says unloading alone requires a minimum of around one hour per vehicle, with cleaning and biosecurity time additional, compared with the officer assumption of around 30 minutes per day.

MBAL's July 2026 review still records the ammonia assessment as only partially resolved, with no matters considered fully resolved. That matters directly to the Committee's original reason for deferral. Members asked for reassurance about the environmental effect on the country park and rewilding area; on a newly designated, nutrient-sensitive Local Wildlife Site, a material part of the ammonia assessment remains unresolved. Residents should not be required to prove ecological damage. Where the applicant has not robustly established the likely impact, that evidential gap should not simply be treated as evidence of no harm or given little weight in the planning balance.

4. Local sourcing and sustainability claims deserve scrutiny rather than assumption.

The proposal depends on substantial purpose-grown maize, imported poultry manure and large inward/outward material flows. ADAS independently challenges several of the assumptions used to present that operating model as local and efficient, including likely manure availability, vehicle type, haulage practice and backloading. Those points matter not only to adverse impacts but also to the weight Members choose to give the claimed site-specific sustainability benefits; Section 7 considers this in more detail.

5. Biodiversity Net Gain and land control - mitigation should not be double-counted as an independent benefit.

The updated officer report confirms a substantial on-site biodiversity loss of -43.36 habitat units and -0.98 hedgerow units. Because sufficient net gain cannot be delivered on site, the applicant proposes to secure 10% BNG through future off-site offsetting. That off-site provision is intended in part to support connectivity with surrounding ecological networks, including Rewilding Harborough. Yet Harborough District Council objects because it considers the development itself may adversely affect that same rewilding project.

Members may therefore wish to distinguish carefully between compensation and an independent planning benefit. The development creates biodiversity harm which then has to be offset. Measures required to compensate for that harm should not be treated as though they were an entirely separate environmental benefit in the planning balance. The mitigation hierarchy is relevant: the first objective is to avoid harm, then mitigate it, and only then compensate where harm cannot otherwise be avoided.

Separately, unresolved land-control issues remain relevant to the secure perimeter, drainage access and any ecological or landscaping measures that actually rely on disputed hedge-and-ditch land. The planning issue is not private title itself, but whether those elements of the scheme are within the applicant's control and genuinely deliverable.

The evidential position

Independent expert evidence identifies material weaknesses in the assumptions used to assess transport, odour, ammonia and operational impacts. Where those weaknesses remain unresolved, the resulting risk should not simply be treated as negligible. The applicant must demonstrate that the development can operate acceptably on reliable evidence; evidential gaps should not be resolved in its favour. Section 8 sets out the planning grounds available to Members if they conclude that the resulting adverse impacts or unresolved risks justify refusal.

Renewable energy: substantial weight, but not a blank cheque

Current national policy requires substantial weight to renewable and low-carbon energy benefits, and residents accept that those benefits must be placed firmly in the planning balance. The question for Members is not whether renewable energy is beneficial, but how much weight the claimed benefits of this particular development should attract once the practical assumptions needed to deliver them are tested.

- **Purpose-grown maize:** The proposal requires approximately 15,000 tonnes of maize each year. Using the 40 tonnes/hectare yield assumption already set out in this report, that equates to roughly 375 hectares / 927 acres / around 525 full-size football pitches of maize production every year. Members may wish to consider what weight should be given to a renewable-energy benefit which depends substantially on purpose-grown feedstock rather than waste.
- **Competition with food production:** what is the opportunity cost of committing agricultural land and crops to energy production, particularly where other AD plants in the wider area are also competing for agricultural feedstocks?
- **Transport intensity:** ADAS's independent agricultural logistics review indicates that real-world operation is likely to involve materially more vehicle movements and substantially greater tractor use than the applicant assumes. If the transport burden needed to operate the plant is materially greater than presented, should the environmental benefit be given the same weight?
- **Backloading:** ADAS considers that the assumed backloading of around 4,000 tonnes of solid digestate during maize movements may be impractical during the critical harvest period. If that assumption fails, additional journeys would be required. Does that reduce the weight that should be attributed to the claimed transport and climate efficiencies?
- **Local sourcing versus HGV efficiency:** the applicant's case presents maize as locally sourced while also assuming that 85% will be moved by HGV and only 15% by tractor/trailer. ADAS's independent evidence is that direct tractor haulage occurs over much greater distances in real AD operations and that operators may abandon double-handling to HGV because of cost, practicality and contamination risk. Members may wish to ask whether the application is seeking the sustainability benefit of local sourcing while relying on a transport model which may not reflect how locally sourced agricultural material is actually moved.
- **Poultry manure:** the Council's earlier planning case recorded 3,000 tonnes per year from the nearby poultry farm. ADAS independently assessed the likely capacity of that unit and estimated only around 500-600 tonnes per year - roughly one sixth of the amount assumed. This is also consistent with the nearby farmer's own recorded statement that capacity is about 500 tonnes per year. If the remaining manure must come from multiple other farms over a wider catchment, the apparent local-circularity benefit and associated transport assumptions are materially weakened.

These points do not remove the renewable-energy benefit. They go to the weight Members should give it. If favourable assumptions increase the apparent benefits while independent expert evidence indicates greater land use, sourcing distances, vehicle movements and operational impacts, then the positive side of the planning balance may itself be overstated.

Overall position

The question for Members is therefore not whether the proposal has benefits. The question is whether those benefits outweigh the adverse impacts when the latter are assessed on the evidence now available. Residents respectfully submit that they do not.

2. Odour

The odour case is not based on a general proposition that anaerobic digestion plants cannot control odour. Modern AD facilities can reduce and mitigate odour through enclosure, handling procedures and management controls. But mitigation is not elimination, and the planning assessment should not treat a plant of this kind as effectively odour-free. Normal operation necessarily includes foreseeable activities capable of generating significant odour, particularly the delivery, unloading, movement and handling of poultry manure. The issue is whether the residual and short-duration odour risks are acceptable at the actual sensitive receptors around this particular site.

Why Michael Bull's evidence carries particular weight

Dr Michael Bull is one of the UK's leading specialists in odour assessment for planning. He chaired the Institute of Air Quality Management working group that produced the IAQM Guidance on the Assessment of Odour for Planning in 2014 and its 2018 update. He is a former IAQM Vice Chair and Committee member and has more than 35 years' experience in air quality and odour assessment. His evidence therefore concerns the interpretation and application of the professional guidance used to assess odour impacts in the planning system.

Why the chronology matters

- The Council commissioned AECOM to undertake an independent review of the applicant's air-quality and odour material, MBAL's reviews and Environmental Health comments.
- The committee report describes AECOM's review as dated July 2026, but expressly says it summarised documentation received only "up to June 2026".
- MBAL's latest Summary Note is dated 6 July 2026. The committee report records that no matters were considered fully resolved; odours from storage and loading of chicken manure remained unresolved, while the ammonia assessment and some other matters were only partly resolved.
- AECOM also could not have considered the later RSK ADAS logistics evidence dated 27 August 2026, which identifies poultry-manure unloading as a minimum of around one hour per vehicle, with cleaning and biosecurity additional, and identifies the potential for deliveries to cluster, resulting in queueing and multiple deliveries in a single day.

Source: IAQM Guidance on the Assessment of Odour for Planning (2018 v1.1); IAQM professional biography of Dr Michael Bull. Committee report/addendum for 14 September 2026; RSK ADAS logistics review, 27 August 2026.

2.1 Poultry-manure handling is a foreseeable high-odour activity

Poultry manure is not a minor or abnormal odour source: the plant requires regular deliveries and routine unloading, movement and handling. MBAL considers chicken litter highly odorous when removed from poultry facilities and notes that disturbance can release gases trapped within the material. The relevant question is therefore not simply how long manure is stored, but what occurs during normal delivery and handling.

The officer report now makes the conflict especially clear. It acknowledges that ammonia emissions from poultry-manure loading may have been underestimated because disturbance / turbulence was not fully reflected, but discounts the significance partly on the basis that loading would last no more than around 30 minutes per day.

ADAS says poultry-manure unloading alone requires a minimum of around one hour per vehicle, with additional time for vehicle cleaning and biosecurity. The minimum unloading duration is therefore already at least twice the duration relied upon by officers, before cleaning, biosecurity or multiple deliveries are added. ADAS also notes that deliveries may cluster around poultry-house clearance cycles rather than being evenly distributed.

Why this matters to location: An AD plant can mitigate odour, but it cannot credibly guarantee zero odour from all normal feedstock handling. The appropriate planning question is therefore not whether odour controls exist, but whether realistically foreseeable residual odour events are acceptable given the proximity of homes, Hursley Park and other sensitive outdoor receptors.

Why the duration matters technically: MBAL explains that unloading is not equivalent to passive storage. Disturbing poultry manure during unloading and handling can release gases trapped within the material and materially increase emissions; MBAL specifically identifies the need to account for this disturbance, for example through an appropriate turbulence factor. ADAS now indicates that this higher-emission disturbed handling activity is also likely to last materially longer than the officer assumption. **The issue is therefore twofold: the emission rate during handling may have been understated, and the duration of that higher-emission activity may**

also have been understated. Both errors point in the same direction - towards greater odour and ammonia impacts than are currently reflected in the officer planning balance.

Sources: MBAL Summary Note and associated odour review; TRC odour material; RSK ADAS logistics review on poultry-manure unloading and supplier timing.

2.2 Nearest residential receptors

Applicant / assessment position: The original odour assessment stated that the nearest receptor was approximately 150m away. However, the Council's own August 2025 report identifies the curtilage of the nearest residential receptor at approximately 85m north of the site, and MBAL records that the two closest receptors were initially not identified in the SPR assessment.

Independent review: After the closer properties were raised, the applicant's consultant did not simply reassess them on the same residential basis. It argued that their existing agricultural setting reduced their sensitivity to odour. MBAL describes that reasoning as "fundamentally incorrect": the residents have no association with the proposed AD process, and AD odours would not be an expected feature of their environment.

UNRESOLVED

MBAL Summary Note, pp. 2 and 4.

2.3 Interpretation of odour concentrations

Applicant / assessment position: The applicant compares Environment Agency benchmarks based on modelled 98th-percentile hourly mean concentrations with Defra descriptors based on exposure over only a few seconds.

Independent review: MBAL calls the comparison an 'entirely inappropriate comparison'. Hourly averages can conceal much higher short-term peaks, so a modelled concentration that appears modest on an hourly basis may still include brief but much stronger odour events. MBAL notes that concentrations above the 98th percentile may be 10-30 times higher than the percentile value, which is why short-duration sensory descriptors cannot simply be equated with hourly model outputs.

UNRESOLVED

MBAL Summary Note, pp. 2, 4-5.

2.4 SPR methodology

Applicant / assessment position: MBAL considers that Source Odour Potential and Pathway Effectiveness were not correctly determined. Some changes were made subsequently, but these factors remain in dispute.

Independent review: These are inputs to the assessment of whether odour reaches sensitive receptors and with what potential effect.

UNRESOLVED

MBAL Summary Note, pp. 2 and 5.

2.5 Worst-case meteorological conditions

Applicant / assessment position: The SPR assessment relies principally on wind speed and direction frequencies and does not adequately account for atmospheric stability.

Independent review: MBAL's modelling produces a different spatial pattern of relative odour risk and identifies the highest relative risk to the north of the development. Although most dwellings in Great Bowden lie to the south, the two closest sensitive residential receptors are to the north, making this finding particularly important. MBAL states that no appropriate response has been provided.

UNRESOLVED

MBAL Summary Note, pp. 2, 3 and 5.

2.6 Meteorological dataset

Applicant / assessment position: MBAL questioned whether Wittering meteorological data appropriately represents conditions at the proposed site and suggested use of alternative NWP data.

Independent review: That alternative assessment has not been undertaken.

UNRESOLVED*MBAL Summary Note, p. 3.***UNRESOLVED***MBAL Summary Note, pp. 3, 5-6.***PARTLY RESOLVED***MBAL Summary Note, p. 2.*

2.7 Existing local odour burden and cumulative exposure: JG Pears

JG Pears is relevant to this application for a limited but important purpose. It is a different operation, under a different regulatory regime, and nothing in this briefing is intended as criticism of JG Pears. Its relevance is the real-world evidence it provides about odour risk and the existing odour environment experienced by Great Bowden.

A Freedom of Information response obtained by GBRMC records more than 180 odour complaints during 2025. The significance of that figure is not that every complaint establishes a breach, or that the circumstances are directly comparable with an anaerobic digestion plant. It shows that significant odour events can be experienced in the locality in practice, notwithstanding environmental permits, operating procedures and mitigation measures.

Why this matters to the Marigold assessment: where a development is inherently capable of generating odour, modelling and mitigation should be tested against realistic operating conditions rather than treated as a guarantee of zero odour. The local complaint history is therefore a practical reminder of why source identification, receptor sensitivity, meteorology, short-duration peaks, poultry-manure handling and credible worst-case scenarios must be assessed comprehensively.

MBAL expressly raised the potential for cumulative impacts from other odour sources, including Market Harborough Sewage Works and JG Pears. The applicant response was that cumulative impacts were unlikely because of the orientation of the individual processes. MBAL did not regard that as a complete answer, noting that the addition of a new odorous process would increase the frequency of odour events in the area. MBAL therefore categorised the issue as only "Partly resolved".

That distinction matters. Cumulative odour exposure is not limited to occasions when two plumes physically overlap at exactly the same time. Residents experience odour over time. If one wind direction carries odour from Marigold Farm towards receptors on one occasion, and different conditions carry odour from another established source towards those receptors on another occasion, the overall frequency of odour events has increased even though the two events are separate. Under some meteorological conditions there may also be potential for combined effects; whether and where that occurs is a technical matter to be assessed rather than assumed away.

COMMITTEE QUESTION

If Great Bowden already experiences documented odour events from an existing industrial source, and MBAL states that adding a new odorous process would increase the frequency of odour events in the area, why should the cumulative issue be regarded as resolved merely because the individual processes are differently orientated?

Sources: Michael Bull & Associates, Summary Note Issue, 6 July 2026, item 5 (cumulative impacts: Market Harborough Sewage Works and JG Pears; applicant response based on orientation; MBAL conclusion that a new odorous process would increase the frequency of odour events; status "Partly resolved"); GBRMC Formal Representation to Leicestershire County Council, 6 July 2026, section 7 and Appendix 1 (FOI evidence recording more than 180 odour complaints during 2025).

2.8 Activities not fully assessed

Applicant / assessment position: MBAL raised the absence of assessment for some activities, including feedstock delivery. The applicant's response suggested some circumstances were abnormal operations.

Independent review: MBAL notes that loading is stated elsewhere to occur regularly for around one hour each day.

PARTLY RESOLVED*MBAL Summary Note, p. 3.*

Committee implication: a modest modelled hourly-average figure should not be treated as meaning that residents would experience only a faint or barely detectable smell.

2.9 Cross-check with ADAS: manure handling and delivery patterns

The transport evidence materially reinforces the odour concern. ADAS finds that poultry-manure unloading is not necessarily a single brief event and that deliveries from several poultry suppliers may cluster around flock-clearance cycles. The same operational reality therefore matters in two different ways: it affects traffic and queueing, and it affects the frequency and duration of foreseeable manure-handling emissions.

Sources: MBAL Summary Note, pp. 3 and 5-6; TRC Technical Note No. 5, Comment 4; ADAS report, pp. 10-12.

2.10 AECOM: substantial agreement on the risk - but its reassurance depends on real-world operational control

The Council commissioned AECOM to provide an independent review of the air-quality and odour evidence. Its conclusions should not be characterised simply as contradicting Michael Bull & Associates. In several important respects, AECOM supports MBAL's concerns.

AECOM accepts that:

- the principal odour risks arise not from the sealed digestion process itself, but from the receipt, storage, handling and transfer of feedstocks before they enter the process;
- poultry manure can be highly odorous and requires effective controls to be consistently applied during receipt, storage and handling;
- short-duration handling emissions are difficult for the dispersion model to represent accurately and the modelling may not adequately reproduce fluctuations or peak-emission events lasting significantly less than an hour;
- ammonia emissions associated with manure loading may have been underestimated because disturbance during handling was not clearly reflected in the emission rate;
- intense short-duration emissions can reach the nearest residential properties and could produce a significant effect where the most odorous events coincide with adverse meteorological conditions; and
- episodes of higher emissions will occur and perceptible odours will inevitably be experienced at times at off-site locations, including the closest residential properties to the north.

AECOM nevertheless concludes that these impacts are capable of being reduced to an acceptable level if best-practice measures are consistently applied to a high standard. Its reassurance is therefore conditional. It does not conclude that the odour-generating events will not occur; rather, it concludes that the consequences of those events can be sufficiently controlled through consistently effective operation.

That makes the realism of the assumed operational regime critical.

Later ADAS evidence materially challenges the operational assumptions

AECOM's review predates the later ADAS agricultural-logistics evidence. ADAS materially challenges several practical assumptions relevant to whether the orderly operating regime on which AECOM's conclusion depends can reliably be maintained:

- poultry-manure unloading is expected to take a minimum of around one hour per vehicle - at least twice the approximately 30-minute daily loading duration relied upon in the officer assessment - with cleaning and biosecurity time additional;
- poultry-litter deliveries are not expected to occur as a smooth daily flow: independent poultry-house clearance cycles can result in multiple deliveries arriving within the same period, potentially overlapping with other feedstock or digestate operations;
- ADAS concludes that queueing is likely, rather than merely a remote abnormal event, because arrivals may be unpredictable and clustered while only two HGV parking bays are available; and
- agricultural operations are constrained by harvest periods, spreading windows, weather, contractor availability and vehicle payloads. Those practical constraints cannot necessarily be removed simply through a future scheduling or management plan;
- higher traffic volumes, congested or clustered deliveries and queueing - individually or in combination - would place additional pressure on normal site operations, including staff, vehicle manoeuvring and holding space, weighbridge access, unloading and cleaning activity, and available handling or temporary storage capacity. These are therefore relevant to whether the consistently high operational standards assumed by AECOM can be maintained in practice.

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The distinction is important. A management plan can regulate an operation, but it cannot make an operating pattern achievable if the underlying agricultural logistics make that pattern unrealistic. Planning conditions are expected to be reasonable and practicable as well as precise and enforceable. If clustered deliveries, minimum unloading times, cleaning and biosecurity requirements and overlapping operations are foreseeable features of normal operation, those circumstances should form part of the assessment itself rather than being treated simply as matters which an ideal management regime will prevent.

The residents' case is therefore not that AECOM should be disregarded. Quite the opposite. AECOM independently confirms several of the central risks identified by MBAL. The remaining question is whether AECOM's conditional conclusion - that those impacts can be kept acceptable through consistently high operational standards - remains reliable once the later evidence about how this particular plant is likely to operate in practice is taken into account.

A relevant local reminder: JG Pears

Members may also wish to consider the documented local experience associated with JG Pears, discussed at section 2.7. JG Pears is a different operation operating under a different regulatory regime, and this comparison is not intended as criticism of that business or as evidence that the proposed AD plant would necessarily produce the same effects. Its relevance is narrower but important.

A Freedom of Information response records more than 180 odour complaints during 2025. That does not mean every complaint represented a regulatory breach. It does, however, demonstrate that significant odour events can be experienced by local residents in practice notwithstanding environmental permitting, operating procedures and mitigation measures.

That experience illustrates why the distinction between theoretical control and reliable real-world operation matters. Where the acceptability of an inherently odorous activity depends upon operational controls being applied consistently and successfully, Members may wish to be satisfied that the assumptions underpinning those controls reflect the conditions likely actually to occur - particularly where later independent evidence identifies clustered arrivals, queueing, longer handling periods and other operational pressures as foreseeable features of normal operation rather than exceptional failures.

Sources: AECOM, Marigold Farm Anaerobic Digestion Facility, Great Bowden: Review of Air Quality and Odour, ref. 60748216, July 2026, sections 1.4, 2.5 and 3.17-3.24; RSK ADAS Ltd, Great Bowden Biogas Plant - A Review of Feedstock and Digestate Recycling Logistics, 27 August 2026, pp. 9-12; GBRMC FOI evidence summarised at section 2.7; national Planning Practice Guidance on the use of planning conditions.

3. Transport & Agricultural Logistics

3.1 Why the issue was revisited

Transport has already been a central issue in the Committee's consideration of this application. At the August 2025 Committee meeting, a Member challenged the applicant's then-assumption that maize movements would be undertaken entirely by HGV, stating that it was an "absolute certainty" that all maize would in practice come by tractor and trailer, and that most digestate would likewise be removed by tractor/trailer or tanker. The Committee asked the planning team to investigate those matters further, alongside ecological issues considered elsewhere in this briefing.

The applicant subsequently made a limited revision to its transport case. It acknowledged that tractors and trailers would be used for maize, but assumed only 15% of the maize requirement would be transported directly by tractor/trailer, with the balance by HGV. Residents understand that the applicant's revised peak movement figure increased only modestly, from 52 to 56 movements, and that the Local Highway Authority accepted the revised volumes as acceptable.

Why residents commissioned ADAS: The revision itself demonstrated that the original 100% HGV assumption was not reliable. Residents remained concerned that the replacement 15% tractor assumption was being accepted without the meaningful investigation they understood the Committee to have requested. They therefore commissioned RSK ADAS Ltd to test the transport assumptions against agricultural practice, AD logistics and likely real-world operating conditions.

3.2 Independent expertise

The final ADAS report is dated 27 August 2026. It was prepared by Phil Metcalfe, a Chartered Agricultural Engineer and Chartered Environmentalist with more than 40 years' experience in renewable energy, including work on anaerobic digestion, DEFRA policy advice and regulatory compliance for site operators. ADAS describes itself as the UK's largest independent provider of agricultural and environmental consultancy, policy advice and applied research.

ADAS report, pp. 2-3.

3.3 Headline conclusion

ADAS conclusion: The planning submission may underestimate peak vehicle movements and digestate export volumes. ADAS recommends further evidence before the transport and operational impacts can be fully assessed.

ADAS identifies assumptions concerning maize haulage, digestate volumes, vehicle payloads and timing. It specifically warns that maize deliveries, poultry-litter movements and digestate exports are likely to be concentrated into short operational windows rather than spread evenly throughout the year.

ADAS report, Executive Summary, p. 4.

3.4 Poultry-manure sourcing: the claimed local link appears materially overstated

The Council's August 2025 committee report records that one third of the proposed 9,000 tonnes of poultry manure - 3,000 tonnes per year - would be sourced from the nearby poultry farm approximately 320m north of the site. That proposition strengthened the apparent locational and sustainability case for the development by implying a substantial existing waste stream immediately adjacent to the proposed AD plant.

ADAS subsequently tested whether that quantity was realistic. Based on the visible scale of the nearby poultry unit and standard manure-production data, ADAS estimates that the farm would typically produce only around 500-600 tonnes of manure per year - roughly one sixth of the 3,000 tonnes recorded in the committee report. (as also verified in the minutes of the Great Bowden Parish Council meeting in November 2025 - published on their website - where the farmer states his capacity to be "about 500 tons per year"). ADAS concludes that the balance would therefore have to be secured from multiple other poultry units, potentially over a much wider catchment.

The 3,000-tonne figure is therefore treated here simply as a figure recorded in the Council's August 2025 committee report, rather than attributed to any particular party. Subsequent independent evidence, now also supported by the nearby farmer's own statement that his capacity is "about 500 tons per year", demonstrates that the 3,000-tonne assumption was materially incorrect.

Sources: LCC Development Control and Regulatory Board report, 7 August 2025, para. 25; RSK ADAS Ltd logistics review, poultry-litter section.

3.5 Local maize sourcing and transport assumptions are internally inconsistent

The August 2025 committee report records that the closest maize source was expected to be near Dingley and that the remaining maize would come from farms within an 8km (5-mile) radius. At the same time, the revised transport case assumes that only 15% of maize would be hauled directly by tractor/trailer and that 85% would arrive by articulated HGV. Those assumptions confer separate advantages on the application - a strong local-sourcing narrative on the one hand and a lower-movement, higher-capacity HGV transport model on the other - but ADAS evidence indicates that they are not naturally compatible in real-world agricultural logistics.

The closer maize is grown to the digester, the greater the commercial and operational incentive to haul it directly from field to site by tractor/trailer rather than take it from the harvesting trailer, double-handle it onto an HGV and then transport it a short distance to the AD plant. ADAS specifically identifies the additional cost, handling difficulty, access constraints and contamination risk associated with field-to-HGV transfer.

ADAS concludes that the applicant's 15% direct tractor-haulage assumption is not sustainable on the evidence of other operators and does not reflect real-world operating experience. Its enquiries identified direct tractor haulage from distances of up to 16km, including one operator that abandoned HGV transfer after the first year because of additional cost, access difficulties and contamination risk, and then transported all maize directly by tractor/trailer

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for approximately ten years. ADAS states that the tractor proportion is therefore likely to increase after the first year, potentially to the whole 15,000-tonne maize requirement.

Why this matters: if maize is genuinely sourced predominantly from nearby farms, the possibility of a substantially higher proportion of direct tractor haulage must be assessed. If, alternatively, sourcing distances are materially greater so that HGV transfer becomes more commercially attractive, that weakens the claimed local-sourcing and sustainability case. A robust assessment should therefore test a realistic range of tractor/HGV mixes, including materially higher direct tractor haulage and the possibility of 100% tractor delivery, rather than relying simultaneously on highly local sourcing and predominantly HGV haulage.

Sources: LCC Development Control and Regulatory Board report, 7 August 2025, paras. 26 and 266; RSK ADAS Ltd logistics review, pp. 7-8 and conclusion 2.

3.6 Planning conditions cannot substitute for a realistic operating assessment

It may be argued that any concern about higher tractor use or additional vehicle movements can simply be addressed by planning conditions limiting vehicle numbers, vehicle types, timing or routing. Conditions can legitimately be used to make otherwise unacceptable development acceptable, but national policy requires every condition to be necessary, relevant, enforceable, precise and reasonable. The existence of a possible condition is therefore not, by itself, an answer to evidence that the operating assumptions used to assess the development may be unrealistic.

A condition does not retrospectively validate a transport assessment based on an operating model that independent agricultural evidence says is not sustainable. Where real-world commercial and agricultural pressures point towards higher tractor proportions, smaller payloads, concentrated harvesting and spreading windows, arrival bunching or greater digestate volumes, those credible scenarios should be assessed before permission is granted. The Authority should not rely on future monitoring or enforcement as a substitute for testing whether the development can realistically operate within the assumptions on which its acceptability is being judged.

If a permission depends on an operating pattern that proves commercially or practically unworkable, that creates a foreseeable risk of compliance and enforcement difficulties or subsequent applications to vary the very controls relied upon when permission was granted. That is why the key question is not merely whether a restrictive condition can be drafted on paper, but whether the operating assumptions it would secure are realistic, sustainable and capable of being maintained over the lifetime of the development. ADAS recommends testing a range of realistic agricultural and operational scenarios rather than reliance on favourable averages, maximum payloads and assumed vehicle choices. Section 3.22 considers the proposed movement condition and vehicle-type issue in more detail.

Planning policy basis: National Planning Policy Framework, paras. 56-57 (conditions may make otherwise unacceptable development acceptable, but must satisfy the six tests); Planning Practice Guidance, Use of Planning Conditions, paras. 003 and 005. Evidence: RSK ADAS Ltd logistics review, conclusions.

3.7 Peak maize traffic is substantially higher than an averaged assessment suggests

ADAS emphasises that even if the applicant's 15% tractor assumption is retained, the tractor movements would not be evenly interspersed with HGV movements across the harvest month. A nearby supplying farm is likely to be harvested in sequence, with its crop moving directly to the bunker by tractor/trailer.

For 2,250 tonnes - 15% of the maize requirement - ADAS calculates approximately 27-33 inward tractor loads per day over five days depending on practical trailer payload, with a potential peak of 34 inward loads on four of those days. With each load producing an inbound and outbound movement, this is a very different operational picture from a simple monthly average.

ADAS also records real-world bunching: one contractor reported three triple-axle maize trailers arriving within three minutes. If all maize is transported directly by tractor/trailer, the higher movement level would extend across the whole harvest month.

ADAS report, pp. 7-8.

3.8 The assumed tractor type cannot be guaranteed

The applicant has relied heavily on the characteristics of a high-specification JCB Fastrac. ADAS explains that contractors choose machinery according to fleet availability, servicing, compatibility, price and maintenance, and may subcontract haulage to others using different machinery.

ADAS therefore states that exclusive use of JCB Fastracs cannot be assumed. Lower-specification tractor/trailer combinations may be restricted to approximately 25 mph, and even a compliant fully laden tractor/trailer is unlikely to travel the whole route close to its maximum permitted speed.

Committee implication: the planning assessment should not rely on every agricultural vehicle over the lifetime of the development performing like the specific high-specification Fastrac used in the applicant's comparison.

ADAS report, p. 7.

3.9 Straw traffic may also be understated

For 16,000 tonnes of straw, the applicant's technical note assumes four daily HGV movements. ADAS examines practical bale weights and vehicle configurations and estimates 2-3 one-way straw loads per day, equivalent to approximately 4-6 vehicle movements.

On the assumptions tested by ADAS, this means 50% more deliveries on around half of the days than stated in the technical note. ADAS estimates that a straw delivery vehicle may occupy the site for around 40 minutes, including manoeuvring, unloading, load-security activity and weighbridge time.

ADAS report, pp. 8-9.

3.10 Poultry-litter deliveries are likely to arrive in clusters, not as a smooth daily average

The application requires 9,000 tonnes of poultry manure. ADAS notes that the August 2025 LPA report assumed 3,000 tonnes would come from the nearby Welham Lane poultry farm. ADAS's review of aerial imagery suggests that farm is more consistent with approximately 500-600 tonnes of manure, meaning multiple additional suppliers would be required.

Broiler units operate in crop cycles and need litter removed promptly before cleaning and sanitisation. With several independent suppliers, the AD operator cannot fully control when those clearances occur. ADAS therefore expects deliveries to occur in clusters and notes that clearances from more than one shed or farm can coincide with straw deliveries, maize harvest or digestate export.

ADAS report, pp. 10-11.

3.11 Queueing and limited on-site holding capacity

ADAS considers the interaction between different traffic streams rather than each one in isolation. It identifies poultry-manure unloading as taking a minimum of one hour per vehicle, with additional time then required for vehicle cleaning and biosecurity measures. The total occupation time is therefore necessarily longer than one hour for each such delivery; the one-hour figure is a minimum unloading period, not the full duration of the vehicle's handling and biosecurity process on site. At the same time, direct maize deliveries may reach up to 34 inward loads per day - 68 two-way movements from maize traffic alone - already exceeding the applicant's stated total maize-harvest peak of 56 movements per day, before account is taken of straw, poultry-litter or other overlapping traffic streams.

Critical highway implication: ADAS does not identify queueing as a remote possibility; it concludes that, given unpredictable and clustered arrivals and only two HGV parking bays, queueing is likely. This is a material departure from an assessment based on evenly distributed vehicle movements. Officers rely on a future Delivery and Service Management Plan to control delivery timing and help prevent queueing. However, the issue identified by ADAS is more fundamental. Agricultural operations are constrained by harvest and spreading windows, weather, contractor availability, vehicle payloads and the need to move substantial quantities of material within limited periods. These factors cannot simply be removed through scheduling. The relevant question is therefore not whether a management plan can seek to organise traffic, but whether the development has first been assessed against the volume, vehicle mix and concentration of movements likely to be required in practice. A management plan cannot make an unrealistic transport assumption realistic. If substantially more movements, greater tractor

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use or more concentrated deliveries are required for the plant to operate, those impacts must be assessed and given appropriate adverse weight before mitigation is considered. This is another reason why the current planning balance is unreliable: mitigation is being relied upon to reduce the perceived harm while the underlying scale of that harm has not first been established using realistic operating assumptions.

ADAS report, pp. 9-10.

3.12 Biosecurity is an additional operational issue

ADAS identifies a potential biosecurity pathway between the proposed AD plant and nearby poultry operations. It recommends that the development demonstrate that manure transport, vehicle cleaning and site operation would not compromise disease-prevention measures required on poultry farms.

ADAS report, p. 12.

3.13 Digestate volumes may be materially greater than stated

The applicant's stated outputs are 30,000 tonnes of liquid digestate and 24,000 tonnes of solid digestate - 54,000 tonnes in total. ADAS tested the process using an established AD model and a bespoke mass-balance calculation, including the water required to operate a plug-flow process.

ADAS's modelling produces approximately 72,674 tonnes of digestate requiring export - around 73,000 tonnes. That is about 18,700 tonnes more than the applicant's stated 54,000 tonnes, an increase of roughly 35%. ADAS states that the practical consequence could be an approximately 20% increase in the vehicle requirement compared with the stated transport case.

The split is also materially different. Against the applicant's 24,000 tonnes of solid digestate, ADAS estimates approximately 37,520 tonnes of dewatered solid fibre - about 13,520 tonnes more, or roughly 56% higher. Against the applicant's 30,000 tonnes of liquid digestate, ADAS estimates approximately 35,154 tonnes of exported liquid after recirculation - about 5,150 tonnes more, or roughly 17% higher. These are not small margins: they directly affect the number, type and seasonal concentration of vehicles needed to remove digestate from the site.

ADAS report, pp. 13-16.

3.14 More solid digestate means more vehicle movements

ADAS notes that the type of vehicle used to move solid digestate will depend on the access available at receiving field-storage sites. It is therefore unrealistic to assume that all material will travel in maximum-capacity 28-tonne articulated tippers; 18-tonne rigid HGVs and tractor/trailer combinations may also be required.

For the estimated residual solid digestate, ADAS calculates that the average number of 28-tonne loads leaving the site could rise to around five per day, compared with the projected three per day for 20,000 tonnes - a 50% increase in the projected average.

ADAS report, pp. 18-19.

3.15 Backloading may not be practically achievable at the assumed level

The planning case assumes approximately 4,000 tonnes of solid digestate can be backloaded onto vehicles associated with maize deliveries. ADAS identifies a practical conflict: weighing and loading digestate adds time during the critical maize-harvest period, when rapid turnaround is operationally important.

If those 4,000 tonnes are not backloaded, ADAS estimates an additional 143 loads using 28-tonne vehicles or 222 loads using 18-tonne vehicles - approximately 286-444 additional two-way movements per year.

ADAS report, p. 19 and Table 7 note.

3.16 Liquid-digestate movements could be three to four times the applicant's stated figure

The application states that liquid digestate would generate 8 HGV movements per day. ADAS's operational evidence indicates a materially different picture. Its survey of AD sites found that tractor-drawn tankers are commonly used for direct spreading and are likely to be the preferred option for spreading land within approximately 5 km; ADAS also records observed tractor-tanker movements on major single-carriageway roads to sites up to 7.5 km away.

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ADAS Table 7 quantifies the effect. During the principal spring spreading period, its scenario with only 15% of liquid digestate moved by tractor tanker produces 24 liquid-digestate movements per day - 18 HGV movements plus 6 tractor movements - three times the applicant's stated 8 movements. If all liquid digestate is transported to nearby land by tractor tanker, ADAS calculates 34 liquid-digestate movements per day - more than four times the applicant's stated figure.

Committee implication: the difference is not marginal. The applicant presents 8 daily liquid-digestate movements, whereas the independent agricultural evidence identifies realistic operating scenarios of 24 to 34 movements per day during spreading periods. That materially changes the scale, vehicle mix and highway effect of the development and should be assessed as such.

ADAS report, pp. 17-20 and Table 7.

3.17 Digestate traffic is seasonal and concentrated

ADAS identifies two main digestate-spreading campaigns: spring, from around February to May/early June, and late summer/autumn. Its contractor evidence suggests approximately 75% of applications now occur in spring and 25% in autumn.

This means digestate movements are not spread evenly through the year. ADAS estimates that if 75% of the liquid digestate is applied between February and May, daily loads would be materially higher than an annual average suggests. If tractor-drawn tankers are used for nearby land, the number of loads increases further.

ADAS report, pp. 19-20.

3.18 ADAS traffic scenarios

ADAS Table 7 can be translated into an annual operating calendar to show the scale of the difference more clearly. The applicant does not provide a month-by-month traffic forecast, so the comparison below uses its stated typical/average figure of 22 two-way movements per day and its stated maize-harvest peak of 56, alongside the highest directly quantified ADAS scenario for the relevant seasonal activity. It is illustrative rather than a prediction that every day in a month would operate at the stated peak.

Month	Seasonal activity	Applicant stated case	ADAS relevant / upper scenario
Jan	Normal operation	22 typical / average	28 baseline (+6 / 27%)
Feb	Spring digestate spreading	22 typical / average	Up to 64 (+42 / 191%)
Mar	Spring digestate spreading	22 typical / average	Up to 64 (+42 / 191%)
Apr	Spring digestate spreading	22 typical / average	Up to 64 (+42 / 191%)
May	Spring digestate spreading	22 typical / average	Up to 64 (+42 / 191%)
Jun	Spring spreading may continue into early June	22 typical / average	28 baseline; spring peak may extend into early June
Jul	Normal operation	22 typical / average	28 baseline (+6 / 27%)
Aug	Late-summer / autumn digestate spreading	22 typical / average	28 baseline + seasonal spreading*
Sep	Late-summer / autumn digestate spreading	22 typical / average	28 baseline + seasonal spreading*
Oct	Maize harvest; autumn spreading may overlap	56 maize-harvest peak	Up to 88 maize peak (+32 / 57%)*
Nov	Normal operation / possible late spreading	22 typical / average	28 baseline (+6 / 27%)
Dec	Normal operation	22 typical / average	28 baseline (+6 / 27%)

Note: These figures should not be treated as maximum traffic levels. ADAS states that Table 7 excludes backloading. If the assumed backloading of 4,000 tonnes of solid digestate during the maize harvest proves impractical, ADAS estimates a further 286-444 vehicle movements per year, equivalent to up to approximately 1-2 additional movements per day. Seasonal traffic streams may also overlap. ADAS report, section 5.5 and Table 7 note, pp. 19-21.

Reading the calendar: the largest directly comparable contrasts are the spring digestate period (22 typical/average movements in the applicant case versus up to 64 in ADAS's all-tractor-tanker scenario) and maize harvest (56 stated peak versus up to 88 in ADAS's direct-tractor scenario). ADAS also identifies a second late-summer/autumn digestate campaign, but does not publish a separate total upper daily figure for that period, so no unsupported number has been inserted. Seasonal traffic streams can overlap, meaning the table should not be read as an absolute ceiling. Sources: applicant Revised Transport Statement/TN1 figures as reproduced and tested by ADAS; ADAS report, Table 7 and Conclusions, pp. 19-23.

Source: ADAS report, Table 7, p. 21; figures on pp. 22-24.

3.19 A6 highway safety context has materially changed

The transport issue is not only one of capacity. It is also one of road safety on a fast rural A-road where the proposed development would introduce repeated turning movements by large vehicles and, on ADAS's evidence, repeated and substantial flows of slower tractor/trailer and tractor-tanker traffic, concentrated into identifiable seasonal peaks.

News

Police respond to A6 bypass speeding concerns

Written by HFM News on 9th July 2026



Police will carry out regular speed enforcement on the A6 Market Harborough bypass

Police will carry out regular speed enforcement on the A6 Market Harborough bypass following concerns about speeding motorcyclists.

The stretch of road between the Rockingham Road and McDonald's roundabouts has been added to Leicestershire Police's list of locations for mobile safety camera vans.

Jonathan Clarkson, spokesperson for the Leicester, Leicestershire and Rutland Road Safety Partnership, said: "When we receive a Community Concern request, we review the most recent vehicle speed data for the location concerned."

He said locations are only added to the partnership's enforcement programme where there is evidence of both a speeding problem and a history of injury collisions.

Mr Clarkson added: "If the survey data indicates that speeding is not an issue, no further action will be taken. Where the data confirms both a speeding problem and a recent history of injury collisions, the location will be added to our Community Concern site list and considered for enforcement activity."

Article: <https://harboroughfm.co.uk/police-respond-to-a6-bypass-speeding-concerns/>

Source: Harborough FM | harboroughfm.co.uk

Contemporary local reporting confirming regular police speed enforcement on the A6 Market Harborough bypass following evidence of speeding and injury collisions.

Source: HFM News, 9 July 2026 - harboroughfm.co.uk/police-respond-to-a6-bypass-speeding-concerns/



Figure 1. “Bike Crash Site” warning sign on the A6 close to the Welham Lane junction used by the proposed development. GBRMC’s 14 June 2026 representation records this sign as approximately 50–75 metres from the junction and states that several such signs are present along this stretch of the A6.

Source: photograph submitted by Great Bowden Residents Management Company Ltd to Leicestershire County Council with its A6 Highway Safety Concerns representation, 14 June 2026.

The officer report records six fatal collisions within the wider A6 study corridor between 2020 and 2025, five involving motorcycles. The Local Highway Authority notes that no common pattern was identified and none involved an HGV or other slow-moving vehicle. That historic causation point is not the relevant test.

The relevant question is whether this development introduces a new or materially greater risk into an already serious road-safety environment. ADAS identifies substantially more tractor/trailer and tractor-tanker movements than the applicant’s case, together with arrival bunching and likely queueing. Those conditions increase speed differentials, turning conflicts, tailbacks and overtaking pressure on a high-speed A-road.

The absence of previous collisions specifically attributed to slow vehicles does not demonstrate that the additional future risk is acceptable. If anything, relying on historic causation rather than testing the realistic future operating scenario risks understating the adverse impact in the planning balance.

3.20 Why slower agricultural vehicles change the safety picture

The applicant sought to reduce concern about tractors by relying heavily on JCB Fastrac units. Its revised Technical Note stated that Fastracs could reach approximately 44mph and that their acceleration, manoeuvring and braking characteristics were similar to, or potentially superior to, articulated HGVs. It went further and asserted that their use would make no difference to the safe operation of the A6/Welham Road junction or the wider local highway network.

ADAS does not support treating that as a reliable lifetime operating assumption. Contractors select machinery according to their own fleets, maintenance arrangements, compatibility, price and commercial requirements and may subcontract haulage. ADAS therefore states that exclusive use of JCB Fastracs cannot be assumed.

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ADAS also identifies a material speed difference. Lower-specification tractor/trailer combinations may be restricted to approximately 25mph, and even a compliant fully laden Fastrac/trailer is unlikely to travel the whole route close to its maximum permitted speed. In practice, agricultural combinations will also decelerate sharply when approaching and turning at the Welham Road/A6 junction.

That distinction matters on a road where existing objections already identified the risk of tailbacks and unsafe overtaking caused by slow-moving vehicles. The safety assessment cannot reasonably treat every tractor movement as if it were functionally equivalent to a high-specification HGV.

Sources: Applicant Technical Note C23003-TN1(REV_B), paras. 2.1.2-2.1.5; ADAS report, vehicle-type / speed assessment.

3.21 ADAS identifies up to 88 movements/day and says queueing is likely

ADAS's Table 7 identifies approximately 88 two-way movements per day during direct tractor maize haulage. If all maize is transported directly by tractor/trailer, ADAS states that this level may extend across the whole harvest period rather than a short part of it.

ADAS also records real-world arrival bunching, including three maize trailers arriving within three minutes. With maize, straw and poultry-litter traffic potentially overlapping and only two HGV parking bays available, ADAS concludes that queueing is likely.

This creates a materially different safety scenario from a model based on evenly spaced HGV movements: slower vehicles may approach and leave the junction in clusters, with queueing or tailbacks increasing the likelihood of following traffic attempting to overtake or manoeuvre around them.

Sources: ADAS report, Table 7 and operational-arrival evidence; LCC Officer's Report / Addendum Report for 14 September 2026, highway-safety and collision-history sections.

3.22 Movement controls do not cure an unrealistic operating assessment

The recommended permission does not currently impose a numerical cap on daily vehicle movements. The application has nevertheless been assessed on the basis of around 22 movements per day for most of the year and up to 56 during harvest.

ADAS identifies realistic operating scenarios materially above those figures, including up to 64 movements during the spring digestate period and up to 88 during maize harvest.

This creates a fundamental problem. If no cap is imposed, the permission would not constrain the development to the traffic levels on which the highway assessment and planning balance have been based. But imposing a cap at the applicant's projected levels would not resolve the underlying issue either. A planning condition should not be used to force a development to operate within assumptions which independent agricultural evidence indicates may be unrealistic in practice.

If the development cannot realistically operate within the traffic assumptions on which the application has been assessed, the proper response is not to impose an arbitrary ceiling designed to preserve those assumptions. The application should instead be assessed against realistic operating conditions. If those realistic conditions give rise to materially greater traffic and associated impacts, that additional harm must be reflected in the planning balance.

3.23 ADAS's final conclusions

- Vehicle movements to and from the AD facility will be greater than stated in the application and TN1 response, with agricultural production cycles creating seasonal and weekly concentrations.
- The assumed proportion of maize transported directly by tractor/trailer is not sustainable based on other site-operator experience with double handling to HGV.
- Even if 15% tractor haulage is retained, practical harvesting concentration creates substantially higher short-term movements by lower-capacity and lower-speed vehicles than an averaged assessment suggests; a higher tractor proportion would extend that peak across the whole harvest period.
- Maize harvest and digestate campaigns will overlap with independent straw and poultry-litter deliveries, while smaller-capacity tractors, tankers and rigid HGVs increase the number of movements compared with assumptions based on large articulated vehicles.

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- There is uncertainty over water inputs and separator performance. ADAS's modelling indicates digestate fractions and total export may be significantly higher than the applicant states, with a corresponding increase in traffic.
- ADAS recommends rigorous testing across a range of realistic agricultural and operational scenarios, including short-term effects and practical payloads, rather than reliance on annual averages, maximum payloads and a month-long maize-harvest average.

ADAS report, Conclusions, p. 25.

3.24 What residents ask the Committee to require

- A substantive reassessment of transport based on realistic agricultural operation, rather than simply accepting the applicant's preferred operating model.
- Testing of maize traffic at materially higher tractor/trailer proportions, including a 100% direct-haul scenario.
- Assessment of liquid digestate removal using realistic tractor-tanker proportions for nearby spreading land.
- Recalculation of traffic using verified digestate mass balance and separator performance.
- Peak-period modelling that reflects bunching, crop cycles, spreading windows, supplier constraints and coincident traffic streams.
- Explicit consideration of queueing, weighbridge capacity and the two available HGV parking bays.
- Assessment using a realistic range of vehicle payloads and tractor specifications, rather than assuming exclusive use of high-specification Fastracs and maximum-capacity articulated HGVs.
- A clear explanation of how any assumptions relied upon would be secured and enforced over the lifetime of the development.

The key transport question: Has the applicant demonstrated that the transport model is credible, sustainable and representative of how the plant is likely to operate in practice - or only that a lower-impact operating scenario can be described on paper?

- A specific highway-safety reassessment of the A6/Welham Road junction using realistic tractor/trailer speeds, turning behaviour, arrival bunching and the 88-movement/day ADAS scenario.
- A condition set that secures not just a headline movement number but the vehicle categories, routing, timing and other operating assumptions actually relied upon in the safety assessment.

4. Air Quality / Ammonia / Digestate

The principal air-quality issue is developed with the ecological evidence in Section 5 because its significance depends on nearby sensitive habitats. In summary, MBAL records ammonia as only partly resolved and identifies a major unassessed indirect pathway: using the application quantities, it estimates about 7,823kg/year of ammonia from the plant itself but more than 44,500kg/year associated with digestate spreading. Source: MBAL Summary Note, 6 July 2026.

5. Ecology and the Evolving Environmental Context

The ecological context around Marigold Farm is sensitive and has become more formally recognised since the original application was submitted. The relevant question is therefore wider than the development footprint itself: it includes the relationship between the proposed industrial process, its direct and indirect emissions, and a nearby network of designated and actively restored ecological assets.

Ecological asset	Proximity / status	Relevance
Great Bowden Borrowpit SSSI	Applicant's updated ecological appraisal records it approximately 0.60km northwest of the site.	A nationally designated site supporting unusual marsh / tall-fen flora and already recognised as an air-quality receptor.

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Ecological asset	Proximity / status	Relevance
Hursley Park	Applicant's updated appraisal records Hursley Park Local Green Space & Local Wildlife Site approximately 0.17km southwest of the site.	A publicly accessible ecological restoration project containing recently established wildflower meadow, SuDS, pond, hedgerows and trees.
Three HDC rewilding plots / Rewilding Harborough	The three rewilding parcels immediately adjoin the proposed site: land borders the southern and eastern red-line boundaries, with a further parcel directly across Welham Lane to the west.	Purchased by Harborough District Council for rewilding and forming part of a partnership with multiple local landowners intended ultimately to create over 500 acres of connected landscape-scale nature recovery. Their immediate relationship to the site makes the rewilding programme part of the direct environmental and landscape context of the proposal.
James Adler Nature Reserve	Part of the wider local ecological network along the River Welland; GBRMC mapping records it as opening to the public in 2026.	Relevant as part of the wider landscape-scale nature-recovery context rather than as a direct ammonia receptor without further evidence.

Sources: Applicant's 2026 Preliminary Ecological Appraisal Update; GBRMC material-changes representation.

5.1 Hursley Park - ecological value and increasing formal recognition

Hursley Park is not simply amenity grassland. The applicant's own updated Preliminary Ecological Appraisal identifies it as a Local Wildlife Site and records it approximately 0.17km from the application site. The same appraisal describes the park as comprising recently established wildflower meadow, a sustainable urban drainage system, pond, hedgerows and trees.

Its planning protection has also evolved. The reviewed Great Bowden Neighbourhood Plan identifies Hursley Park as Local Green Space and the Independent Examiner concluded that the designation satisfies the relevant national criteria, describing the park as "a very good example of a Local Green Space that is well-used and supported by the community." The Local Green Space point is considered in greater detail elsewhere; here it is relevant because community, planning and ecological recognition increasingly point in the same direction.

Sources: Applicant's Preliminary Ecological Appraisal Update, Table 1; GBRMC material-changes representation.

5.2 Species-rich wildflower meadows - a deliberately low-nutrient habitat

The wildflower meadows are a central ecological feature of Hursley Park and a key component of the Local Wildlife Site. They have been developed through a long-term ecological restoration programme and support a diverse range of flowering species and pollinators.

GBRMC's formal ecological representation records approximately £60,000 of external funding from around fifteen funding organisations for habitat creation and enhancement at Hursley Park, including species-rich wildflower meadow, wetland features, hedgerows and habitat designed to support protected species.

The management regime itself demonstrates the ecological objective. Hursley Park's Landscape Management Plan requires meadow grassland to be cut and all arisings removed from site. GBRMC's ecological representation explains that annual management is undertaken specifically to reduce nutrient levels because nutrient-poor conditions are fundamental to maintaining botanical diversity.

Sources: GBRMC formal representation, July 2026; Hursley Park Landscape Management Plan, 2017.

5.3 Why ammonia and nitrogen deposition matter

The ecological concern is not simply the presence of ammonia as an emission. Ammonia contributes to atmospheric nitrogen deposition. Species-rich grasslands are sensitive to nutrient enrichment because additional nitrogen favours more competitive grasses and vigorous species, potentially changing botanical composition at the expense of less competitive wildflowers.

The ammonia releases therefore present a very real threat to Hursley Park's wildflower meadows. The existing annual management programme deliberately cuts and removes arisings to reduce nutrient levels, and residents report that this has proved successful to date. Heightened ammonia and nitrogen deposition from the proposed plant could work directly against that programme by adding nutrients back into the same habitat. If that effect proves sufficient to frustrate the nutrient-reduction work, residents may ultimately have to abandon the annual programme because continuing it would have become futile.

5.4 Michael Bull & Associates - the ammonia assessment remains incomplete / disputed

MBAL's July 2026 review records the ammonia issue as only partly resolved. An ammonia assessment was subsequently provided, but MBAL states that some previously identified sources were not included and considers ammonia emissions from chicken-manure loading likely to have been underestimated.

MBAL also identifies a separate unresolved issue with manure handling: the applicant's assessment used emission rates based on static storage, whereas disturbance of manure releases gases trapped within the material. MBAL states that there is a clear physical mechanism for higher emissions during handling and records that issue as unresolved.

The significance is heightened by Hursley Park's subsequent Local Wildlife Site recognition. MBAL's summary expressly notes that a newly designated wildlife site should be included in the assessment. The Committee should therefore be satisfied that the current ammonia assessment reflects the ecology that exists at the date of determination, not the ecological baseline that existed when the application was first prepared.

Source: Michael Bull & Associates Summary Note, 6 July 2026.

5.5 Indirect ammonia impacts from digestate spreading

MBAL also raises a substantial indirect-effect issue. Natural England's updated advice requires agricultural developments to consider both direct air-pollution effects and indirect effects such as land spreading within the relevant screening distance, including on third-party land.

Using the quantities stated in the application, MBAL calculates approximately 7,823kg/year of ammonia emitted directly from the AD plant, but more than 44,500kg/year associated with digestate spreading - more than five times the direct plant emission. MBAL states that these spreading emissions have not been assessed.

The potential impact on Hursley Park is wider than ammonia alone. Further adverse effects on the park and its users include the unresolved odour issues identified elsewhere in this report, the substantially greater nearby traffic volumes and tractor movements identified by ADAS, and the visual impact of the proposed buildings and flare stack on the park and its setting.

Source: Michael Bull & Associates Summary Note, 6 July 2026.

5.6 Great Crested Newt mitigation pond

The Hursley Park mitigation pond was specifically identified and designed by the Farming and Wildlife Advisory Group (FWAG), acting on behalf of Natural England, as habitat intended to support Great Crested Newts. It has been funded and is being managed for that purpose, and received its first survey through Natural England's contractor programme during spring/summer 2026. The results of that wider survey programme are still outstanding.

Officers note that residents have not provided eDNA evidence proving that Great Crested Newts are currently breeding at Hursley Park. That is too narrow a way to frame the issue. The absence of confirmed breeding at this stage is not evidence that the receptor is insignificant or that the ecological risk is resolved: this is purpose-built habitat deliberately created and managed to establish or support a Great Crested Newt population.

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The relevant question is therefore not whether residents can prove that breeding has already occurred, but whether the applicant's assessment demonstrates that the development is acceptable having regard to the intended ecological function of the pond and the changed baseline. The pond is approximately 200m from the current application red-line boundary; the officer report uses a different measurement, around 300m from the nearest operational element of the AD plant.

Treating the absence of resident-supplied proof as reassurance risks resolving an evidential gap in favour of the development. Where the ecological baseline has materially changed and relevant survey results are still outstanding, the applicant's assessment should demonstrate that the development remains acceptable on up-to-date evidence; residents should not be required to prove that a significant effect will occur.

Source: GBRMC primary evidence regarding FWAG/Natural England mitigation design and 2026 survey programme; officer report; GBRMC formal ecological representation.

The SSSI, Hursley Park and the Great Crested Newt pond should not be viewed as isolated dots on a map. The wider Great Bowden landscape also includes the James Adler Nature Reserve, River Welland corridor, rewilding land, woodland and hedgerow projects and other local conservation initiatives. The emerging planning framework increasingly recognises this landscape-scale nature-recovery context and habitat connectivity.

GBRMC's environmental mapping records the James Adler Nature Reserve as a publicly accessible reserve opened in 2026, with approximately 22,000 trees planted. Its role in this briefing is not to assert a direct ammonia impact without evidence, but to demonstrate that the application sits within an area where significant long-term investment in nature recovery is taking place.

5.8 What residents ask the Committee to require

- Ensure the ecological assessment uses the current baseline, including Hursley Park's Local Wildlife Site status, the purpose-built Great Crested Newt mitigation habitat and the 2026 survey programme.
- Require all relevant ammonia sources to be assessed using realistic handling and operational assumptions, including emissions associated with chicken-manure disturbance.
- Require the Authority to address the implications of atmospheric nitrogen deposition for the species-rich, deliberately low-nutrient wildflower meadows at Hursley Park.
- Address indirect ammonia effects from digestate spreading in accordance with the current Natural England advice identified by MBAL.
- Consider the proposal in the context of the wider nature-recovery network rather than assessing each ecological asset in isolation.

Ecology question for the Committee: Has the applicant demonstrated, using the ecological baseline and protection that exist now, that direct and indirect ammonia emissions will not undermine nearby habitats whose management is specifically designed to maintain low nutrient conditions and increase biodiversity?

Principal evidence: Applicant's Preliminary Ecological Appraisal Update; Hursley Park Landscape Management Plan; GBRMC formal ecological representation; GBRMC material-changes representation; Michael Bull & Associates Summary Note, 6 July 2026.

6. Neighbourhood Plan and the Changing Planning Context

The Great Bowden Neighbourhood Plan Review materially strengthens the local planning context relevant to this application. The key point is not simply that a revised Plan exists, but that important protections and evidence now available to the decision-maker were not available when the August 2025 Officer's Report was prepared. The Review has since undergone independent examination and the Examiner concluded that, subject to recommended modifications, it meets the relevant statutory requirements and should proceed to referendum.

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Policy / issue	Protection now relevant	Relationship to the AD proposal
Policy G1 – Settlement Boundary / open countryside	Land outside the defined Settlement Boundary is treated as open countryside where development is to be carefully controlled. The Plan explains that protecting the countryside and rural character is a core objective.	The application is a substantial industrial development in open countryside. Its acceptability therefore needs to be assessed against the current countryside policy framework, not only the framework considered in August 2025.
Policy ENV 2 – Local Green Spaces	Hursley Park Country Park is expressly included. Development causing loss or adverse effect to an LGS is not permitted other than in very special circumstances.	Potential effects are not limited to physical loss: odour, air quality, visual effects and the experience of prolonged outdoor recreation at Hursley Park are all relevant to whether the LGS is adversely affected.
Policy ENV 7 – Protection of Important Views	Important views are protected because they help define the village's character and relationship with the surrounding countryside. Important View 6 extends across Hursley Park, adjoining countryside, rewilding land and toward the SSSI.	The 10.5m flare stack and other substantial structures were not assessed against an independently examined Important View 6 in August 2025 because that protection had not yet reached this stage.
Policy ENV 8 – Sites and Features of Natural Environment Significance	The reviewed policy brings together existing designations and locally important habitat sites and was endorsed by the Examiner, subject to drafting modifications.	The proposal now sits within a more clearly recognised network of sensitive sites and ecological features, reinforcing the need to consider cumulative and indirect effects.

Sources: Great Bowden Neighbourhood Plan Review; Independent Examiner's Report; GBRMC neighbourhood-plan representations.

6.1 Emerging weight: protections that were not before the Committee in August 2025

The August 2025 Officer's Report necessarily assessed the application against the policy and evidence available at that time. Since then, the Neighbourhood Plan Review has completed independent examination; Hursley Park's Local Green Space designation has been independently tested; Important View 6 has been independently considered; and the wider environmental framework has become more clearly recognised.

The Examiner specifically found that the important views help define the character of Great Bowden and its relationship with the surrounding countryside, and concluded that Policy ENV 7 otherwise meets the basic conditions. The Examiner also accepted the locally distinctive approach of Policy ENV 8 to identifying natural-environment sites and features.

Residents do not suggest that the emerging Plan automatically determines the application. The point is that its weight should not be understated simply because it was not fully available at the time of the 2025 recommendation. The decision must be taken against the planning context existing at the date of determination.

Sources: Examiner's Report, Policy ENV 7 and ENV 8 findings; GBRMC material-changes representation.

6.2 Hursley Park Local Green Space

Policy ENV 2 now expressly identifies Hursley Park Country Park, including its contiguous amenity spaces and play area, as Local Green Space. The policy states that proposals resulting in loss of, or adverse effect on, an LGS will not be permitted other than in very special circumstances.

The Independent Examiner concluded that Hursley Park satisfies the national Local Green Space criteria and described it as “a very good example of a Local Green Space that is well-used and supported by the community.” This protection is especially relevant because Hursley Park is used for prolonged outdoor recreation and because its value is simultaneously recreational, landscape and ecological.

Sources: Neighbourhood Plan Review, Policy ENV 2; Independent Examiner's Report; GBRMC representation.

6.3 Important View 6

Important View 6 is materially different from a generic landscape objection. It is a specifically identified and independently examined view that extends across Hursley Park Country Park, adjacent open countryside, land identified for rewilding and toward the Great Bowden Borrowpit SSSI.

The original 2025 Officer's Report concluded that the development would not affect viewpoints then identified under Policy ENV 7. That conclusion could not address Important View 6 in its current form because the view had not yet completed independent examination. The Committee should therefore be satisfied that the 10.5m flare stack and other substantial plant have been properly considered against the view now recognised by the Plan.

Sources: GBRMC material-changes representation; Examiner's Report on Policy ENV 7.

6.4 Welham Lane: rural character, recreation and traffic

Welham Lane should not be characterised simply as an access road to an under-used former industrial site. It is a narrow, hedge-lined rural lane with a strong recreational role. The Great Bowden Neighbourhood Plan evidence identifies National Cycle Network Route 64 as running through Great Bowden and out along Welham Lane, records high levels of local walking and cycling, and treats the lane as part of the parish's valued rural movement network.

The applicant's own construction material acknowledges an important physical fact: Welham Lane is a no-through road for motorised traffic. Motor access is therefore limited, while walking and cycling continue through the corridor. That configuration helps explain why the lane functions differently from an ordinary through-road: it is used by residents, walkers, cyclists and agricultural traffic without carrying general through motor traffic.





Figure: Welham Lane in everyday recreational use - horse riders, cyclists, walkers, families and other traditional rural recreational activity. The photographs illustrate the lane's shared rural and recreational character rather than a conventional industrial access road.

Photographic evidence: These images are consistent with the Neighbourhood Plan and Parish Council evidence that Welham Lane is actively used for walking, cycling and recreation. They also demonstrate the practical coexistence of pedestrians, cyclists and equestrians within a relatively narrow rural carriageway - relevant context when assessing the effect of frequent HGV and tractor/trailer movements.

The Council's August 2025 report itself records Great Bowden Parish Council's concern that Welham Lane has significant public use and forms part of Sustrans National Cycle Network Route 64. A separate 2026 appeal decision concerning land on Welham Lane described it as a 'hedge lined rural lane' and found that it retained a 'very rural appearance'. Those are useful independent descriptions of the character Members are being asked to protect.

This matters when considering the intensity of the AD proposal. ADAS identifies realistic peak scenarios of up to approximately 88 two-way movements per day, including slower tractor/trailer traffic and clustered arrivals. The issue is not simply whether an individual HGV can physically pass along the lane. It is whether an industrial traffic regime of that scale and character is compatible with a rural recreational corridor whose present value derives partly from its limited through-traffic function.

Sources: Great Bowden Neighbourhood Plan / supporting evidence on National Cycle Network Route 64 and local walking/cycling; LCC Officer's Report, August 2025, paras. 105-110; applicant construction management material acknowledging Welham Lane is a no-through road for motorised traffic; Planning Inspector appeal decision 6004753 (2026), describing Welham Lane as hedge-lined and retaining a very rural appearance.

6.5 The site does not justify treating the wider area as a regeneration location

The western part of Marigold Farm plainly contains disused buildings and hardstanding from the former mushroom operation. That fact should not be allowed to become a wider narrative that Welham Lane or its surrounding countryside is an area in need of industrial regeneration. The Council's own 2025 assessment was more nuanced: it found that only part of the application site could be regarded as previously developed / derelict land, while the eastern part includes undeveloped scrub and a pond; it also acknowledged some conflict with Policy W5 because the required locational link and overriding need could not both be clearly demonstrated for the non-previously-developed part of the site.

Residents' experience is that the lane itself is not a failing or abandoned environment. It is a well-used recreational and rural corridor. We are not aware of any recent pattern of serious incidents, public nuisance or significant complaints associated with the existing disused site that would create an urgent planning need for this particular form of redevelopment.

Members raised a legitimate question in August 2025 about what would happen to the former mushroom-farm site if this application were refused. The answer need not be that the land remains unused indefinitely. Refusal of this particular proposal would not sterilise the site; it would leave open the possibility of a different use whose scale, traffic, landscape treatment and environmental effects are better aligned with the countryside setting and the direction in which the surrounding area is already evolving.

The recent trajectory of investment around Welham Lane is particularly important. Hursley Park Country Park opened in 2019 and has become a well-used community asset. In March 2025 Harborough District Council spent just under £1.8 million acquiring 133.3 acres at Tin House Farm for landscape-scale rewilding and public access. The Council and Leicestershire & Rutland Wildlife Trust subsequently developed the wider Rewilding Harborough vision with adjacent landowners and partners, taking the connected project area to around 500 acres. The James Adler Reserve has also begun phased public opening in 2026, adding another permanently managed nature-recovery asset in the same wider landscape.

That changes the way the 'do something with the site' question should be framed. The strategic risk is not simply that one former mushroom-farm parcel might remain under-used for longer. The greater planning risk is that a large industrial AD facility, with substantial structures, intensive HGV/tractor traffic, odour risk and ammonia emissions, is inserted into the middle of a rapidly emerging network of country park, nature reserve, rewilding and habitat-connectivity projects.

Those projects are increasingly coordinated rather than isolated. Their value lies in connection - between habitats, public routes, the River Welland corridor, Hursley Park, the rewilding land and the James Adler Reserve. An incompatible use at Marigold Farm could therefore do more than affect one neighbouring site: it could fragment the recreational and ecological character that public bodies, charities, landowners and residents are actively trying to strengthen.

Residents' planning position: the choice is not 'AD plant or dereliction'. It is whether this particular industrial use is the right long-term use of this particular site in a landscape whose recent investment, policy direction and public use are increasingly centred on nature recovery, rural recreation and habitat connectivity. A different reuse of the Marigold Farm site could bring it back into productive use without cutting across those objectives.

Public evidence: Hursley Park country park opened in 2019; Harborough District Council, 20 March 2025, purchase of 133.3 acres for just under £1.8m; HDC Rewilding Harborough partnership / approximately 500-acre landscape-scale vision; LRWT James Adler Reserve, phased opening from 2026. Planning evidence: LCC Officer's Report on Policy W5 and the mixed previously-developed / undeveloped character of the application site.

6.6 The site must be judged in today's planning context

Residents respectfully disagree that Marigold Farm was ever an appropriate location for a development of this scale and operational character. A major industrial process approximately 850m from the centre of an ancient village, with two residential receptors whose curtilages the Council records at approximately 85m from the site, should always have prompted particular caution. However, Members do not need to resolve that historical disagreement in order to determine the application now.

The application must be determined in the planning and factual context that exists at the date of determination. It should not be assessed as though the surrounding area, policy framework and evidence had been frozen at the point when the applicant selected the site or when the Authority reached its earlier recommendation.

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That is not simply a residents' proposition. It follows from the statutory decision-making framework. Section 70(2) of the Town and Country Planning Act 1990 requires the Authority, when dealing with the application, to have regard to the development plan so far as material and to other material considerations. Section 38(6) of the Planning and Compulsory Purchase Act 2004 requires the determination to be made in accordance with the development plan unless material considerations indicate otherwise. Government Planning Practice Guidance confirms that relevant development-plan policies, the National Planning Policy Framework and other material considerations must be taken into account in making the decision; it also recognises that changes in legislation, policy and other material circumstances arising before determination are capable of affecting the decision. The legal question for Members is therefore the acceptability of the proposal under the policy and material considerations relevant when they determine it, not whether it appeared acceptable when the site was selected, when the application was submitted, or when an earlier committee report was written.

Even if the applicant - and at an earlier stage the Authority - considered the former mushroom-farm site potentially suitable because of its previous use and proximity to the A6, the receiving environment has become materially more sensitive and its direction of travel much clearer. Hursley Park has matured as a significant recreational and ecological asset and is now recognised as both Local Green Space and a Local Wildlife Site; Important View 6 has emerged through the independently examined Neighbourhood Plan Review; substantial public and charitable investment is delivering landscape-scale rewilding and habitat connectivity; the James Adler Nature Reserve has opened and is developing; and Welham Lane's role as a rural recreational and cycle corridor is increasingly evidenced.

The highway context has also developed. The A6 evidence now includes a fatal collision on the Market Harborough bypass, targeted police speed-enforcement activity and motorcycle-crash warning signage close to the Welham Lane junction. None of those matters proves that the AD development would itself cause an accident. Collectively, however, they reinforce the need to assess today's realistic mix of HGVs and slower agricultural vehicles against the safety context that exists now, rather than relying on an earlier and more favourable traffic characterisation.

The proposal has remained substantially the same while the sensitivity and strategic direction of the landscape around it have become clearer. The emerging pattern is increasingly one of nature recovery, public access, habitat connection, valued countryside and recreational use. That does not create an automatic prohibition on development, but it does require the original locational judgement to be revisited rather than simply carried forward.

There is a material difference between testing each new piece of evidence against an existing recommendation and retesting the recommendation itself in light of the accumulated new evidence. Residents respectfully submit that the latter is now required. A recommendation made in an earlier planning context should not acquire its own momentum merely because considerable time and technical work have subsequently been invested in defending or refining it.

6.7 Why determine the application now?

Members may reasonably ask why this application is being determined at this point. The Great Bowden Neighbourhood Plan Review is already at referendum stage, with the referendum scheduled for 8 October 2026, and the officer report itself says that it can already be afforded significant weight. If the Review is made following referendum, the relevant protections will carry still greater formal weight as part of the development plan.

At the same time, the latest independent evidence points to adverse impacts which are materially greater than those acknowledged in the applicant's case and reflected in the officer assessment. MBAL identifies significant odour and air-quality concerns and indicates that aspects of the impact assessment may materially underestimate effects. ADAS materially challenges the transport assumptions underpinning the proposal and identifies a substantially more intensive real-world operating pattern than that presented by the applicant.

These are not peripheral disagreements or abstract uncertainties. They concern the scale of the traffic, odour and air-quality impacts at the heart of the proposal and go directly to matters which Members asked to be more fully understood when the application was deferred in August 2025.

Residents are not asking for further delay. After such a lengthy application process, we agree that a decision should now be made. But the fact that the application is now before Committee is not a reason to prefer the applicant's assumptions where independent expert evidence indicates that the adverse impacts are likely to be materially greater. If Members conclude that the officer planning balance understates those impacts, they are entitled to give the independent evidence greater weight and refuse the application.

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Central question for Members: If this application were submitted for the first time today - against today's Neighbourhood Plan position, today's environmental designations, today's nature-recovery programme, today's evidence of recreational use and today's highway-safety context - would the Authority identify Marigold Farm as an appropriate location for a new industrial-scale AD facility?

Residents are not asking the Committee to judge whether the applicant's original site-selection exercise was undertaken in good faith, nor to speculate about why earlier recommendations were reached. Planning permission is not an endorsement of a historic site-selection decision. It is a judgement about whether the development is acceptable now. The Authority must therefore remain capable of changing its planning judgement where policy, evidence and circumstances have materially moved on.

Statutory / policy basis: Town and Country Planning Act 1990, s.70(2); Planning and Compulsory Purchase Act 2004, s.38(6); Government Planning Practice Guidance, 'Determining a planning application' (decision-making and material considerations); National Planning Policy Framework, decision-making. Principal factual evidence: LCC August 2025 Officer's Report and subsequent material; Great Bowden Neighbourhood Plan Review and Independent Examiner's Report; Hursley Park LGS/LWS evidence; Harborough District Council Rewilding Harborough material; Leicestershire & Rutland Wildlife Trust James Adler Nature Reserve material; residents' A6 safety representation and public police / road-safety evidence; RSK ADAS transport review.

6.8 Open countryside and the wider environmental setting

Policy G1 treats land outside the Settlement Boundary as open countryside where development is to be carefully controlled. The Plan explains that open countryside is an attractive, accessible and non-renewable resource and that one purpose of the settlement strategy is to protect the parish's open and rural character.

This matters particularly here because the surrounding countryside is not static or ecologically ordinary. As set out in the Ecology section, the immediate landscape is undergoing rapid nature-recovery investment and formal recognition. The surrounding network includes Hursley Park LGS/LWS, the Great Bowden Borrowpit SSSI, three rewilding plots, two FWAG / Natural England-supported mitigation ponds identified by residents, the disused railway ecological corridor, the River Welland and the James Adler Nature Reserve.

The Neighbourhood Plan helps 'knit together' these individual assets by recognising green infrastructure, habitat connectivity, important views, rural character and valued open spaces as parts of one wider setting. Residents' concern is therefore cumulative: a large AD facility cannot sensibly be assessed as an isolated rural industrial use when its odour, ammonia, visual structures and potentially very high peak traffic movements would be experienced within a landscape that is moving rapidly in the opposite policy and ecological direction.

Residents' planning position: Taken together, the current Neighbourhood Plan protections, the ecological designations and the scale of ongoing nature-recovery investment provide a strong basis for concluding that this location is increasingly unsuitable for an industrial AD development with significant built structures, odour risk and intensive HGV / tractor movements. That is a planning judgement for the Authority, but it is a materially different judgement from the one presented to Committee in August 2025.

6.9 What residents ask the Committee to address

- State explicitly what weight is now given to the independently examined Neighbourhood Plan Review.
- Assess the proposal against Policy G1's open-countryside framework and explain why this industrial use is or is not compatible with the rural setting.
- Assess potential adverse effects on Hursley Park under Policy ENV 2, including odour, air quality, visual effects and recreational experience rather than considering physical land-take alone.
- Reassess landscape and visual effects against Important View 6 under Policy ENV 7.
- Consider Welham Lane's identified recreational and rural-corridor role alongside ADAS's realistic peak traffic scenarios.
- Consider the Neighbourhood Plan together with the wider ecological network described in Section 5, rather than treating each designation, habitat and policy in isolation.

Neighbourhood Plan question for the Committee: Would the same recommendation have been reached in August 2025 if the Committee had then been assessing the proposal against an independently examined Important View 6, Hursley Park as Local Green Space and Local Wildlife Site, the strengthened open-countryside framework, and the now-evidenced nature-recovery setting?

- Retest the previous recommendation as a whole against the circumstances at the date of determination, and explain whether the Authority would identify Marigold Farm as a suitable AD location if the application were submitted for the first time today.

Principal sources: Great Bowden Neighbourhood Plan Review; Independent Examiner's Report; GBRMC material-changes / Neighbourhood Plan representations; RSK ADAS transport review.

- Reject any characterisation of Welham Lane as a generic industrial access corridor or an area whose rural character carries little weight; assess its actual recreational, cycle-route and no-through-road function.
- Address explicitly the alternative-future question raised by Members in 2025: refusal of this AD proposal does not prevent a different, lower-impact reuse of the former mushroom-farm site that could better align with the surrounding nature-recovery and rural-recreation strategy.

7. Renewable Energy Benefit and the Claim to be 'Green'

Residents recognise that renewable gas production is capable of carrying significant planning weight. The issue is not whether anaerobic digestion can contribute to decarbonisation in principle. It is whether the description of this particular proposal as 'green' is allowed to substitute for a balanced assessment of its full land-use, transport, biodiversity, ammonia, odour and landscape consequences.

The key distinction for Members is between policy weight and outcome. National policy requires substantial weight to be given to the benefits of renewable and low-carbon energy. It does not prescribe the result of the planning balance, nor does it require those benefits to override otherwise unacceptable site-specific harm. The weight to be given to the competing material considerations remains a matter of planning judgement for the decision-maker.

Residents' position: The renewable-energy output is a genuine planning benefit and should be weighed as such. But it does not follow that every component of the scheme, its sourcing model or its local environmental effects are environmentally beneficial. The correct planning exercise is to weigh the renewable-energy benefit against the proposal's evidenced and reasonably foreseeable adverse effects.

7.1 Approximately 375 hectares of maize land each year

The proposal requires approximately 15,000 tonnes of maize annually. Using AHDB's current RB209 default fresh-weight yield for forage maize of approximately 40 tonnes per hectare, that quantity represents roughly 375 hectares of maize production each year ($15,000 \div 40$). That is approximately 927 acres — equivalent to around 525 full-size football pitches — or more than one hundred times the 3.47-hectare application site itself.

This is an indicative land-footprint calculation rather than a claim that a fixed 375 hectares would be contractually dedicated to this plant every year: actual yields vary by season, soil, variety and management. It nevertheless illustrates the agricultural land requirement inherent in presenting 15,000 tonnes of purpose-grown maize as part of the renewable-energy case.

External benchmark: AHDB RB209 default fresh-weight forage-maize yield, 40t/ha. Application quantity: approximately 15,000t maize/year.

7.2 Feedstock origins are not fixed for the lifetime of the development

The sustainability case also depends on where the feedstocks actually originate. The application requires maize, straw and poultry manure from multiple agricultural suppliers, yet the individual suppliers are not secured for the lifetime of the development and agricultural contracts and crop rotations can change.

The August 2025 planning case recorded maize as coming from near Dingley and farms within an 8km (5-mile) radius, while straw would be sourced from farms within approximately 40km (25 miles). ADAS subsequently demonstrated that the nearby poultry unit is unlikely to provide the 3,000 tonnes/year attributed to it in the planning

case, estimating approximately 500-600 tonnes/year instead. The balance would therefore need to come from other poultry units.

The practical consequence is that the Authority cannot assume that today's indicative sourcing pattern is the sourcing pattern that will prevail throughout the permission. The environmental balance should therefore reflect the transport consequences of a supply chain whose farms, distances, vehicle types and seasonal patterns are not fully within the operator's control.

7.3 Existing AD capacity raises questions about local feedstock and traffic

Residents have identified several existing or recently commissioned AD facilities in the wider area, including Wormslade Farm at Kelmars, Medbourne Grange at Nevill Holt and Rothwell Lodge at Kettering. They differ in scale and feedstock mix, and residents do not suggest that all compete directly for the same materials.

Their existence nevertheless raises a simple question: what account has been taken of existing regional demand for agricultural feedstocks and the cumulative traffic generated by AD operations? Competition for local material can widen sourcing areas, lengthen journeys and weaken the sustainability assumptions attached to a 'local' supply chain. Residents' experience is that seasonal AD-related agricultural traffic is already conspicuous on rural roads in the wider area; that observation is not advanced as a quantified assessment of any individual plant.

Members do not need to resolve the commercial feedstock market to recognise the issue. The presence of several other plants is sufficient reason to scrutinise carefully claims that Marigold offers distinctive local agricultural or sustainability benefits, and to ask whether its assumed sourcing pattern remains realistic over the life of the development.

7.4 Public support does not answer the site-specific sustainability question

Marigold's own Planning, Design and Access Statement places the proposal in the context of the Green Gas Support Scheme (GGSS). The GGSS is a government financial-incentive scheme for new AD biomethane plants: registered producers receive tariff payments for eligible biomethane injected into the gas grid, funded through the Green Gas Levy, with support potentially continuing for up to 15 years. The scheme requires at least 50% of biomethane, by energy content, to come from wastes or residues; Government explains that this reflects the greater environmental benefits and carbon savings of wastes and residues compared with crops.

That national support is not itself a criticism of AD, and residents do not ask Members to judge the merits of the subsidy regime. It does, however, underline the need to distinguish a supported renewable technology from the site-specific sustainability of a particular project. Marigold also relies on approximately 15,000 tonnes of purpose-grown maize each year - around 375 hectares (approximately 927 acres, equivalent to around 525 full-size football pitches) at the standard yield used above - together with substantial inward feedstock and outward digestate movements. Members may therefore reasonably ask how far the overall local environmental case remains 'green' once land use, sourcing distances, vehicle movements and the full operating cycle are considered.

The evidence reviewed for this briefing does not establish whether Marigold has secured a GGSS tariff guarantee, so no claim is made that this particular project is already receiving subsidy. Sources: applicant Planning, Design and Access Statement, paras. 1.1-1.2; Ofgem, Green Gas Support Scheme and Green Gas Levy; DESNZ, Common Biomass Sustainability Framework consultation (waste/residue threshold and relative environmental benefits).

7.5 What does 'substantial weight' to renewable energy actually mean?

The national policy position has strengthened since the Committee considered the application in August 2025. Policy W3 of the August 2026 National Planning Policy Framework now requires substantial weight to be given to the benefits of renewable and low-carbon energy development. Residents do not seek to diminish that policy requirement. The important planning question is, however, what benefits this particular proposal actually delivers, and whether those benefits outweigh the evidenced adverse effects of this particular development in this particular location. Policy W3 does not direct that renewable-energy development be approved regardless of harm; it requires proposals to be assessed against the national decision-making policies in the Framework taken as a whole.

That distinction matters here. The renewable-energy label cannot substitute for scrutiny of the proposal's actual operating model: its substantial reliance on purpose-grown feedstock, the agricultural land required to supply it, the associated transport burden, and the independently evidenced differences between the applicant's traffic

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assumptions and likely real-world operation. Substantial weight should therefore be given to the genuine renewable-energy benefits established by the evidence - but those benefits must still be weighed against the full range of identified harms.

That is particularly relevant here because the evidence before the Authority is not limited to minor or speculative objections. Independent specialist work identifies material unresolved issues concerning transport and highway safety, odour, ammonia, ecology and operational assumptions. Residents' case is that those issues are real and should not be overlooked, minimised or dismissed simply because the facility falls within a supported renewable-energy technology.

Planning Practice Guidance also confirms the legal distinction between identifying a material consideration and deciding the weight it should receive: provided all material considerations are taken into account, the weight to be given to them is for the decision-maker, subject to ordinary public-law reasonableness. The officer recommendation is therefore an important professional planning judgement, but it is not a mathematical answer produced by the words 'substantial weight'. Committee Members are themselves the decision-maker and may rationally reach a different planning balance on the evidence.

MEMBER DECISION-MAKING POINT

A conclusion that the planning balance favours refusal is not a failure to give substantial weight to renewable energy. Members can fully recognise the renewable-energy benefit and still conclude that the evidenced site-specific harms and unresolved risks make this development unacceptable here.

The Committee may also consider the scale and character of the claimed renewable benefit in the round. Marigold relies on a substantial quantity of purpose-grown maize and other imported feedstocks, together with significant transport movements to bring material in and remove digestate. Government support mechanisms may also assist the commercial viability of biomethane projects. Those factors do not cancel the renewable benefit, but they are relevant context when deciding what weight the particular benefits of this scheme should attract.

Residents' position: Right technology does not automatically mean right development or right location. Strong national support for renewable energy makes the planning balance important; it does not remove it.

National policy sources: National Planning Policy Framework, August 2026, Policy W3 (renewable and low-carbon energy); Planning Practice Guidance, 'Renewable and low carbon energy' (need does not automatically override environmental protections or local planning concerns; impacts vary by place and renewable development should be directed to the right places); Planning Practice Guidance, 'Determining a planning application', paragraph 008 (weight to material considerations is for the decision-maker, provided all material considerations are taken into account). For historical context, the December 2024 NPPF used 'significant weight'; the August 2026 Framework strengthens this to 'substantial weight'.

7.6 Environmental organisations have not treated 'renewable' as synonymous with 'environmentally acceptable'

The Leicestershire and Rutland Wildlife Trust formally objected in August 2025. Its objection emphasised the immediate proximity of the Rewilding Market Harborough project, co-led with Harborough District Council, and described serious concerns about adverse effects, particularly increased HGV traffic and the implications for people accessing neighbouring land for recreation, education and nature engagement.

The significance is straightforward: an organisation whose purpose is nature conservation did not regard the renewable-energy label as resolving the environmental planning balance. Indeed, the Committee's August 2025 deferral expressly required further information on the environmental impact on the country park and rewilding project and referred the applicant to the Wildlife Trust's objection.

The August 2025 DCRB agenda and minutes confirm a late representation from the Harborough, Oadby and Wigston Green Party, and the addendum responded to its concerns about harmful gases and methane. This is therefore a verified part of the consultation record rather than an outstanding validation item.

7.7 Corporate branding is not evidence of local or environmental benefit

The application is made in the name of Great Bowden Green Energy Ltd. A company name is not evidence of community sponsorship, local ownership, guaranteed local feedstock or environmental acceptability. Those matters should be judged from the proposal and evidence, not from corporate branding. The August 2025 Officer's Report identifies the applicant as Great Bowden Green Energy Ltd; technical ecology / air-quality work is commissioned on behalf of GMT Biogas Ltd.

7.8 Biodiversity Net Gain - compensation should not be double-counted as an independent benefit

The updated officer report confirms that the proposal would result in a substantial on-site biodiversity loss of -43.36 habitat units and -0.98 hedgerow units. Because sufficient net gain cannot be delivered on site, the applicant has agreed that 10% Biodiversity Net Gain should be secured through future off-site offsetting by a Biodiversity Offsetting Management Plan. The proposed condition would require that offsetting to support ecological connectivity, including links with Rewilding Harborough, and to be legally secured for 30 years.

There is an important planning-balance distinction. Harborough District Council objects in part because it considers the development may adversely affect the surrounding Rewilding Harborough project, while the proposed BNG response is then intended partly to support connectivity with that same ecological network. Members may therefore wish to consider carefully how much positive weight should be given to the BNG package. The development first creates a substantial biodiversity deficit and may adversely affect the surrounding nature-recovery network; the proposed response is compensatory biodiversity provision intended partly to support that same network.

The mitigation hierarchy is relevant: the first objective is to avoid harm, then mitigate it, and only then compensate where harm cannot otherwise be avoided. Compensation required because of the development's own ecological impacts should not be treated as though it were an entirely separate environmental benefit when carrying out the planning balance. The existence of future off-site BNG does not answer the prior question of whether this is the right location for a development which may itself compromise the ecological network the offsetting is intended to support.

7.9 Land control, secure perimeter, drainage access and deliverability

The updated officer report confirms that the overall 10% BNG requirement is proposed to be met through off-site provision. This reduces the extent to which the overall BNG requirement depends upon disputed boundary land. However, ownership and control of the hedge-and-ditch boundaries remain relevant wherever those features form part of the ecological baseline, retained or enhanced habitat, landscaping, drainage access or secure operational perimeter. Any measure actually relying on those features should therefore be shown to be within the applicant's control and deliverable.

The Council's August 2025 Officer's Report records a dispute about the northern and eastern boundaries. Residents understand that these involve two separate adjoining landowners, each of whom disputes the applicant's claim to own or control the relevant hedge-and-ditch land and says that consent has not been given for their land to be included within the red-line boundary. The applicant's agent has taken the contrary position, telling the Council that all land within the red line on those boundaries is within the client's ownership. The Council correctly records that the planning ownership-certificate and notice process does not itself determine title. The report therefore should not be read as resolving the underlying ownership/control dispute.

Residents do not ask the Committee to determine legal title. The planning issue is the practical one: whether the scheme as submitted can be securely operated, drained, maintained and its ecological commitments delivered if parts of its proposed boundary remain subject to unresolved third-party ownership and access claims.

The hedge-and-ditch presumption is only a rebuttable common-law starting point and is not relied upon by residents as proof of title. The stronger point is that two adjoining owners dispute the applicant's position and the planning process has not determined ownership. Where the development relies on those boundary features, control should not be assumed merely because it is asserted.

This creates a real operational problem. The adjoining landowners say they require continuing access to inspect, clear and maintain the ditches in order to protect their own land from drainage backing up and flooding. Yet an industrial AD facility also requires a coherent secure operational perimeter. If the hedge and ditch themselves form part of that perimeter, they cannot straightforwardly be both secured against third-party access and openly accessible to neighbouring owners whenever drainage maintenance is required. If a separate security fence is intended inside the hedge-and-ditch line, the approved plans need to show a sufficient external maintenance strip and a workable access arrangement that does not compromise site security.

The land-control issue should therefore be kept distinct from the overall off-site BNG requirement. The relevant question is whether any retained or enhanced boundary habitat, landscaping, ecological mitigation, drainage arrangement or security measure depends on land that the applicant cannot demonstrate it controls. If so, that

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specific measure should not be treated as securely deliverable until a workable long-term arrangement has been demonstrated.

The pipeline history reinforces the point. The applicant's 4 June 2026 letter said the original gas connection route changed because a third party had 'withdrawn their permission', while GBRMC's July representation records the affected landowner's different account that consent had never been granted. Residents do not invite Members to infer motive; the planning relevance is that a material route previously depended on third-party land that could not ultimately be relied upon and had to be redesigned.

The Authority should therefore be satisfied that the current scheme is deliverable as a whole: that the secure perimeter can coexist with the adjoining owners' claimed drainage-maintenance rights, and that no ecological mitigation, landscaping, drainage or other operational requirement depends upon disputed land unless sufficient control and a workable long-term arrangement have actually been demonstrated.

COMMITTEE QUESTION

If two adjoining landowners dispute ownership/control of hedge-and-ditch land within the red-line boundary, how will the development maintain a secure operational perimeter while allowing the access required to inspect and clear those ditches, and can any mitigation or operational measure relying on that disputed land genuinely be treated as secured and deliverable?

Principal evidence: LCC Development Control and Regulatory Board Officer's Report, 7 August 2025 and September 2026 addendum; GBRMC Formal Representation, 6 July 2026; Robert Doughty Consultancy letter to LCC, 4 June 2026; current LTS Construction Management Plan.

7.10 The wider environmental balance

The renewable-energy benefit must finally be considered alongside the setting described elsewhere in this briefing: Hursley Park LWS/LGS and its low-nutrient wildflower meadows, the SSSI, rewilding land, mitigation ponds, wildlife corridors, the River Welland and James Adler Nature Reserve.

Those assets are affected through different pathways. MBAL identifies unresolved ammonia / manure-handling issues and unassessed digestate-spreading emissions; the Wildlife Trust has raised concern about traffic and access around the rewilding project; and ADAS identifies materially greater and more concentrated vehicle movements than the planning case assumed. Renewable gas production is a genuine benefit, but it does not make the proposal as a whole environmentally benign.

Committee question: What weight should be given to the renewable-energy benefit once the Committee also accounts for the land required for purpose-grown maize, an unsecured and potentially wider feedstock catchment, realistic agricultural traffic, unresolved ammonia and odour issues, the very low BNG threshold applicable to this legacy application, and the increasingly important ecological setting surrounding the site?

8. Potential Planning Grounds for Refusal

We understand that any reason for refusal must be based on material planning considerations, supported by clear, reasonable evidence and tied to relevant planning policy. Government guidance also requires refusal reasons to be stated clearly and precisely. We believe there are clear grounds on which Members could refuse the application if they conclude that the proposal is unacceptable, and we have therefore drafted a number of possible refusal formulations which we believe meet those criteria.

8.1 Highway safety and the reliability of the transport assessment

Members may understandably ask how a refusal on transport grounds could be justified if the Local Highway Authority does not object. The Highway Authority's advice is an important material consideration, but it is not itself the planning decision. Members remain responsible for determining the application in accordance with the development plan and all material considerations, and national guidance confirms that the weight to be given to a material consideration is for the decision-maker. NPPF paragraph 116 provides the relevant substantive test: development may be refused where there would be an unacceptable impact on highway safety, or where the residual cumulative impacts on the road network would be severe, taking account of all reasonable future scenarios.

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That issue is particularly important here because the independent ADAS evidence was commissioned and submitted by residents late in the process, after it became apparent that the applicant's operating assumptions had not been subjected to the level of practical agricultural scrutiny residents considered necessary. The significance of the new evidence is not marginal. Among other matters, ADAS identifies a spring digestate scenario of up to 64 two-way movements per day for approximately four months, compared with the applicant's stated typical/average 22 movements per day — around 191% higher — together with an 88-movement maize-harvest scenario, a tractor proportion which ADAS concludes is 'not sustainable', clustered arrivals and likely queueing. If the Highway Authority provides a further response shortly before determination, Members should therefore look not simply at whether it maintains 'no objection', but at whether its reasoning demonstrably engages with and tests these materially different operating scenarios. The relevant question is the adequacy of that analysis, not merely how quickly a response has been produced.

The evidence supporting such a reason would include: the A6/Welham Road junction's acknowledged speed and overtaking concerns; the 2025 motorcycle fatality and subsequent enforcement context; ADAS's conclusion that the 15% tractor assumption is not sustainable; the realistic possibility of substantially greater direct tractor haulage; peak scenarios of approximately 88 two-way movements/day; the approximately four-month spring digestate scenario of up to 64 movements/day; slower tractor/trailer combinations; the inability to guarantee exclusive Fastrac use; traffic bunching; and ADAS's conclusion that queueing is likely.

Possible refusal formulation: The proposed development has not demonstrated that its realistic operational traffic, including tractor/trailer and tractor-tanker movements, can be accommodated without an **unacceptable impact on highway safety** at the A6/Welham Road junction and surrounding network. The transport case relies on assumptions regarding vehicle type, payload, timing and distribution of movements that are materially challenged by independent ADAS evidence and are not adequately secured by the proposed conditions.

Potential policy basis: NPPF paragraph 116; section 70(2) Town and Country Planning Act 1990; section 38(6) Planning and Compulsory Purchase Act 2004; Planning Practice Guidance on determining a planning application (decision-makers must consider material planning considerations and determine the weight to give them); LMWLP Policy DM9; relevant Great Bowden Neighbourhood Plan traffic / employment policies; evidence in the August 2025 Officer's Report and ADAS review.

8.2 Odour and residential amenity

A separate refusal reason could arise if Members are not satisfied that unacceptable odour impacts on nearby residential receptors have been robustly excluded. MBAL records a series of unresolved methodological issues, including omission / treatment of the nearest receptors, interpretation of odour concentrations, worst-case meteorology, source-pathway-receptor assumptions and chicken-manure handling.

This is especially material because the original assessment stated the nearest receptor was approximately 150m away, while the Council's own report identified residential receptors at approximately 85m; once the closer properties were raised, their sensitivity was then discounted on the basis of their agricultural setting, a position MBAL describes as fundamentally incorrect.

Possible refusal formulation: The applicant has failed to demonstrate that the development would avoid **unacceptable odour impacts on nearby residential receptors**. Material aspects of the odour assessment remain unresolved, including receptor sensitivity, short-term odour peaks, meteorological conditions and emissions associated with manure handling, such that the Authority cannot be satisfied that **residential amenity would be adequately protected**.

Potential policy basis: LMWLP Policy DM2; relevant Great Bowden Neighbourhood Plan amenity / employment policy; NPPF policies on pollution and amenity; MBAL Summary Note.

8.3 Air quality, ammonia and ecological harm

Members could also refuse if they conclude that the applicant has not demonstrated that ammonia and nitrogen-deposition impacts on nearby ecological receptors are acceptable. The ecological baseline now includes Hursley Park as a Local Wildlife Site and Local Green Space, species-rich low-nutrient wildflower meadow, the Great Bowden Borrowpit SSSI and Great Crested Newt mitigation habitat.

MBAL records the ammonia assessment as only partly resolved, questions emissions from chicken-manure handling and identifies unassessed indirect emissions from digestate spreading. Its calculation indicates that ammonia associated with digestate spreading could substantially exceed direct plant emissions.

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Possible refusal formulation: The applicant has not demonstrated that direct and indirect ammonia emissions, including emissions associated with manure handling and digestate spreading, would avoid **unacceptable harm to nearby designated and locally important ecological receptors**. In the absence of a complete and robust assessment against the current ecological baseline, the proposal fails to demonstrate that **biodiversity and sensitive habitats would be adequately protected**.

Potential policy basis: LMWLP Policies DM2 / relevant biodiversity policies; Great Bowden Neighbourhood Plan Policy ENV 8 and related environmental policies; NPPF biodiversity and pollution provisions; MBAL and ecology evidence.

8.4 Hursley Park Local Green Space

Policy ENV 2 now gives Hursley Park specific Local Green Space protection. Members are entitled to consider not only physical encroachment but whether the proposal would cause an adverse effect on the function, experience or qualities for which the space is valued.

Potential effects include odour, atmospheric pollution, visual intrusion, traffic and the erosion of tranquillity and recreational enjoyment. These should be considered cumulatively rather than as isolated technical topics.

Possible refusal formulation: The development would cause an **adverse effect on Hursley Park Local Green Space** through its cumulative effects on tranquillity, recreational amenity, visual setting and environmental quality, contrary to Policy ENV 2 of the Great Bowden Neighbourhood Plan.

Potential policy basis: Great Bowden Neighbourhood Plan Policy ENV 2 and the independently examined Local Green Space designation.

8.5 Important View 6 and landscape harm

Important View 6 was not available in its current independently examined form when the August 2025 Officer's Report was prepared. The view extends across Hursley Park, adjacent open countryside, rewilding land and towards the SSSI. The proposal includes substantial industrial structures, including a 10.5m flare stack and buildings / plant of approximately 8m or more.

Possible refusal formulation: The scale, form and industrial character of the proposed development would cause **unacceptable harm to the rural landscape setting and to Important View 6**, undermining the relationship between Hursley Park, surrounding open countryside and the wider environmental landscape.

Potential policy basis: Great Bowden Neighbourhood Plan Policy ENV 7; LMWLP landscape policy / DM5; NPPF landscape and design provisions.

8.6 Open countryside and spatial strategy

Possible refusal formulation: The proposed industrial-scale anaerobic digestion facility represents an inappropriate form of development in the open countryside whose scale, built form and operational effects would **conflict with the rural character and environmental objectives of the area**.

Potential policy basis: Great Bowden Neighbourhood Plan Policy G1, which protects the countryside outside the defined Limits to Development and requires proposals there to be assessed against the Plan's countryside strategy rather than treated as acceptable simply because they are outside the settlement. In this case that policy should be read alongside the Plan's landscape, important-view, ecology and traffic policies, the relevant Leicestershire Minerals and Waste Local Plan policies, and the NPPF's requirement to recognise the intrinsic character and beauty of the countryside. The point for Members is therefore not merely that the site is rural, but that the Neighbourhood Plan gives that rural location a specific policy context which must be weighed in the planning balance.

There is also a cross-cutting evidential basis for refusal. Planning permission does not have to be granted simply because each individual uncertainty might theoretically be controlled later by condition. Conditions can only make otherwise unacceptable development acceptable where they are necessary, precise, enforceable, relevant and reasonable. They are not a substitute for an applicant demonstrating that the development can operate acceptably in the first place.

8.7 Failure to demonstrate a robust and credible operating case

Here, independent evidence challenges the applicant's assumptions on vehicle mix, traffic peaks, digestate quantities, manure handling, odour receptors and ammonia emissions. Members could therefore conclude that the evidence base is insufficiently robust to support a positive planning judgement.

Possible refusal formulation: The applicant has failed to provide a sufficiently robust, internally consistent and enforceable evidence base to demonstrate that the development can operate without **unacceptable environmental and highway impacts**. Material uncertainties identified by independent specialists **cannot be adequately resolved by the proposed conditions**.

Potential policy / legal basis: development-plan policies cited above; NPPF decision-making provisions; national guidance on the six tests for planning conditions.

8.8 Unresolved land control and operational deliverability

A further cross-cutting concern arises if the development's secure boundary, drainage arrangements, ecological mitigation or landscaping depends on land whose ownership or control has not been demonstrated. The Council's own Officer's Report acknowledges the northern/eastern boundary dispute and states that the planning ownership process does not determine title. The planning issue is therefore not the private dispute itself, but whether the permission sought can be implemented and maintained in the form assessed.

Members could conclude that the applicant has not demonstrated a coherent and deliverable operational boundary if the submitted plans do not clearly show how site security, neighbouring ditch/hedge maintenance, drainage access and long-term biodiversity management can coexist. The previous change to the gas connection after the third-party route could not be relied upon reinforces the importance of resolving present-day control and deliverability before permission is granted.

Possible refusal formulation: The applicant has failed to demonstrate that the proposed development, including its secure operational boundary, drainage-maintenance arrangements and ecological mitigation measures, is **capable of being implemented and maintained within land over which sufficient control has been established**. The resulting uncertainty means that the Authority cannot be satisfied that the **development is deliverable in the form assessed**.

Potential policy / legal basis: development-plan policies requiring deliverable mitigation and protection of amenity, ecology and drainage; the general requirement that planning conditions and mitigation be enforceable and capable of implementation; evidence in the August 2025 Officer's Report and the July 2026 GBRMC representation.

8.9 Cumulative conflict with the current planning and environmental context

Members may also frame a refusal around cumulative harm rather than treating each issue in isolation. Since August 2025, Hursley Park's Local Green Space and Local Wildlife Site status, Important View 6, the Neighbourhood Plan Review and the wider nature-recovery landscape have all strengthened the planning context.

The same development now has to be considered against a substantially clearer picture of the area's sensitivity: an open-countryside location adjoining a network of recreation, biodiversity and landscape assets, while the proposal would introduce industrial structures, odour risk, ammonia emissions and intensive heavy / agricultural traffic.

The timing point identified in Section 6 is also relevant to the overall planning balance: the Neighbourhood Plan Review is already afforded significant weight and is due to referendum on 8 October 2026, while independent expert evidence now indicates materially greater adverse impacts than those reflected in the applicant's case.

Possible refusal formulation: Taken cumulatively, the proposal's highway, odour, air-quality, ecological, landscape and recreational effects would conflict with the current development-plan framework and cause **unacceptable harm to the character, environmental quality and amenity of the surrounding area**.

If Members are persuaded that the development is unacceptable, they should ask officers during the debate to help translate the identified harms into precise policy-based refusal wording before the vote. Local Government Association guidance specifically recognises that committees may depart from officer recommendations, but refusal reasons should be justifiable and supported by policy and evidence.

9. Pattern of Underestimation / Downplaying of Impacts

Transport example already evidenced: the applicant's original transport assumptions did not allow for the tractor/trailer use subsequently acknowledged in the revised case. The replacement assumption of only 15% direct tractor haulage is now itself challenged by ADAS as not sustainable on the evidence of other operators and as not reflecting real-world operating experience.

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When the odour, transport, feedstock, ecology and planning evidence is considered together, a recurring pattern emerges: important assumptions have repeatedly sat at the favourable end of the plausible range. A more distant receptor, more efficient vehicle, larger payload, smoother traffic profile, more local feedstock source, lower emission estimate or narrower ecological baseline each makes the same location easier to justify. Independent scrutiny has repeatedly moved those assumptions towards a less favourable real-world position.

That matters because this is fundamentally a locational decision. The question is not whether anaerobic digestion can work somewhere, but whether Marigold Farm would still be identified as appropriate if realistic operating assumptions and today's planning and ecological context had been applied from the outset.

Issue	Applicant / assessment approach	Independent evidence	Why it matters
Nearest odour receptors	Nearest receptor stated at about 150m; closer properties were not initially identified in the SPR assessment. Once raised, their sensitivity was discounted because of existing agricultural odours.	LCC's August 2025 report identifies the nearest residential receptor at about 85m. MBAL says the two closest receptors were initially omitted and that reducing their sensitivity is fundamentally incorrect.	A greater distance and lower receptor sensitivity both reduce the apparent odour risk.
Odour concentration presentation	98th-percentile hourly-average benchmarks were compared with Defra descriptors based on exposure lasting only seconds.	MBAL calls the comparison entirely inappropriate and explains that short-term peaks may be many times the hourly average.	The methodology can make a material odour impact appear faint or barely detectable.
Worst-case weather	SPR analysis relied on wind speed and direction frequencies.	MBAL says atmospheric stability was not properly considered; its modelling produces a different risk pattern and the highest relative risk to the north, where sensitive receptors are located.	Excluding a relevant dispersion factor can suppress the predicted worst-case impact.
Meteorological dataset	Wittering data were treated as representative.	MBAL suggested alternative NWP data; that work was not undertaken and the issue remains unresolved.	The assessment retains the dataset favourable to its conclusions without the requested cross-check.

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Issue	Applicant / assessment approach	Independent evidence	Why it matters
Feedstock/loading sources	Some loading and delivery activities were initially outside the normal-operation assessment or characterised as abnormal; chicken manure was initially treated as low odour because storage would be short.	The applicant later accepted loading can emit odour but characterised it as low-intensity and short-duration. MBAL says chicken litter is highly odorous and handling emissions exceed static-storage assumptions.	A source moves from omitted/low-potential to acknowledged, but is still characterised in a way that minimises its significance.
Duration and frequency of manure handling	Odour response relies on loading being around one hour and short-duration.	ADAS says unloading is at least one hour per manure vehicle, cleaning may extend this, and independent poultry cycles mean deliveries can cluster and multiple deliveries can occur in the same period.	Real-world duration and frequency may be greater than the simplified odour scenario.
Maize transport mode	Original case relied on HGV haulage; revised case allowed only 15% direct tractor/trailer haulage.	ADAS says the 15% assumption is not sustainable on the evidence of other operators and does not reflect real-world operating experience; it records a plant that moved all maize directly by tractor/trailer for about ten years.	The lower tractor share materially suppresses peak movement numbers and slower-vehicle impacts.
Traffic timing	Movements were materially represented through averages over longer periods.	ADAS says agricultural operations occur in concentrated windows and records three maize trailers arriving within three minutes; its peak tractor-maize scenario reaches 88 movements/day.	Averages obscure bunching, queueing and short-term highway effects.

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Issue	Applicant / assessment approach	Independent evidence	Why it matters
Vehicle capacity/type	Assessment relies on large HGV payloads and a high-specification JCB Fastrac.	ADAS says contractors choose their own fleets; lower-spec tractors may be limited to about 25 mph and smaller payloads increase journey numbers.	Assuming best-performing vehicles reduces predicted movement numbers and operational impacts.
Digestate quantities	Planning material states 60,000 tonnes total digestate export, including 24,000 tonnes solid.	ADAS models about 72,674 tonnes total export and about 37,520 tonnes solid fibre, with an export-vehicle requirement potentially around 20% higher.	Understated output directly understates traffic.
Backloading	Around 4,000 tonnes of solid digestate is assumed to be backloaded during maize movements.	ADAS says the additional weighing/loading may be impractical during the critical harvest period; failure to backload could add about 286-444 two-way movements per year.	A favourable operational assumption reduces the stated vehicle total.
Local poultry-manure supply	Council's 2025 report records 3,000 tonnes/year - one third of the manure requirement - from the nearby poultry farm.	ADAS estimates that the visible unit would typically produce only around 500-600 tonnes/year and that multiple additional suppliers would be needed.	The 3,000-tonne assumption makes the proposal appear more locally circular and reduces the apparent external haulage requirement.
Local maize sourcing versus HGV assumption	Maize is presented as coming from nearby farms within an 8km (5-mile) radius, while the transport case assumes 85% is moved by HGV and only 15% by tractor/trailer.	ADAS finds double handling to HGV adds cost, practical difficulty and contamination risk; direct tractor haulage occurs at other AD plants from up to 16km and one operator abandoned HGV transfer entirely.	The application receives the sustainability benefit of local sourcing and the traffic benefit of high-capacity HGV haulage, although ADAS indicates those assumptions are operationally in tension.

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Issue	Applicant / assessment approach	Independent evidence	Why it matters
Highway condition / vehicle mix	Original assessment: 52 movements at peak; revised applicant case: 56 movements after allowing 15% direct tractor haulage. ADAS: up to 88 movements during maize harvest.	ADAS says tractor choice cannot be guaranteed, lower-spec combinations may travel at about 25mph, a fully laden Fastrac is unlikely to sustain maximum speed, and realistic direct tractor haulage can produce 88 movements/day.	A numerical HGV cap does not by itself secure the vehicle mix and operating characteristics used to justify highway safety.

The effect is cumulative: closer or more sensitive receptors, stronger or more frequent odour events, less genuinely local poultry-manure supply, greater tractor use for locally sourced maize, smaller practical payloads, more clustered movements and larger digestate volumes all tend to increase the impacts relevant to this site.

Residents do not allege motive. The evidence does not establish why individual assumptions were selected. What it does show is repeated reliance on assumptions or methodologies with the effect of understating likely impacts, with several subsequently revised or challenged through independent scrutiny.

Committee question: Given the number of material assumptions that have changed or been independently challenged, is it reasonable for the Authority to continue resolving uncertainty by accepting the applicant's preferred case, or should the proposal now be tested against robust, realistic and precautionary operating scenarios before planning permission is granted?

Evidence base: LCC Development Control and Regulatory Board report, 7 August 2025; MBAL Summary Note, 6 July 2026; TRC Technical Note No. 5, 18 March 2026; RSK ADAS Ltd logistics review, 27 August 2026.

Overall residents' position: There may be an important role for anaerobic digestion in delivering renewable energy and managing agricultural materials. That makes appropriate siting more important, not less. The evidence assembled in this briefing increasingly indicates that Marigold Farm is the wrong location for a development of this particular scale and operational character.

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