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Our ref: EN010158

29 July 2026

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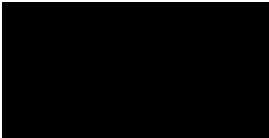
Dear Examining Authority

Deadline 5 Submissions
Preston Farms Ltd (“PFL”) and TCS Biosciences Ltd (“TCS”)

1. We act for PFL and TCS.
2. We provide under cover of this letter PFL/TCS’ Deadline 5 evidence and submissions
3. This includes a main document comprising evidence and submissions that summarise and elaborate on points made at ISH3/CAH2 and address the deadline 5 action points from ISH3 and CAH2.
4. That document is to be read with the additional evidence found in the appendices to this Deadline 5 Response. The full set comprises:
 - i. The main document
 - ii. Covering Note and attached plans/maps illustrating livestock movements and grazing arrangements
 - iii. Named Veterinary Surgeon (“NVS”) letters/responses on air quality impacts and response to ISH3 AP49
 - iv. Appendix Note on Air Quality Impact and BESS Risk
 - v. Veterinary risk assessment
 - vi. Pathable advice on animal stress and blood diagnostics
 - vii. Independent transport consultant’s report (Railton TPC Ltd)
5. Dealing specifically with action points (AP) for PFL/TCS from the ISH3 (EV9-016):
 - i. Re AP26, AP27, AP28 the ExA is referred to the main document and to the maps and covering note appended at pp.26-32
 - ii. Re AP32 the ExA is referred to the main document and to the response from the Named Veterinary Surgeon that is appended at 33-34
 - iii. Re AP49 the ExA will note the detail is addressed primarily through the response from the Named Veterinary Surgeon appended at pp.33-34 as well as an accompanying note from TCS explaining the impacts on donor blood products and other side effects from contamination at p.35-39.

6. Then in response to the CAH2 AP8 (EV10-006), the ExA is referred to the main document at paragraph 89 et seq at p.17.
7. There are, relatedly a number of issues discussed at ISH3/CAH2 and Action Points from ISH3 and CAH2 for the applicant that relate to PFL/TCS.
8. That includes AP20 and the Applicant's assessment of construction access routes in its Construction Access Review (REP4-087). The ExA is referred to the transport report appended, which comes from a leading transport consultant, Mr Bruce Bamber, and which considers the Applicant's work and reaches very different conclusions to REP4-087, notably as regards the alternative viable access route to Parcel 3 proposed by PFL/TCS, which it is apparent was not only not previously assessed by the Applicant, but which even now has not been properly assessed by the Applicant.
9. More generally, the main document comprises both legal submissions and evidential detail (it is prepared by counsel and Mr James Preston and Mr Gareth Williams of PFL/TCS as to their respective parts of the document).
10. In addition to summarising and elaborating on points raised and issues discussed at ISH3/CAH2 and addressing the action points, it also provides a steer for the ExA as to how it should approach the points on which the parties' disagree.
11. It may also serve as a useful guide as to what it is the ExA might look for when considering and testing the adequacy or otherwise of the Applicant's responses to its various Action Points, as to which there are a number of Action Points, including AP10, AP17, AP19, AP23, AP29, AP30, AP44, AP45, that require the Applicant to engage (when they should have done a long time ago) with *inter alia* screening, transport and access, biosecurity, design and, noise and vibration.
12. Those matters to be provided in response to Deadline 6 action points, or matters which are also presently proposed to be provided at Deadline 6, are also noted.

Yours Faithfully,



RICHARD BUXTON SOLICITORS

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PLANNING ACT 2008

ROSEFIELD SOLAR FARM DCO APPLICATION EXAMINATION

EXAMINING AUTHORITY PANEL:

DR RICHARD MORGAN and MR MARK JAMES

PRESTON FARMS LIMITED (“PFL”) AND TCS BIOSCIENCES LIMITED (“TCS”) DEADLINE 5 SUBMISSIONS/EVIDENCE, SUMMARISING AND ELABORATING POINTS MADE AT ISH3/CAH2, AND ADDRESSING ACTION POINTS

Introduction

1. This is PFL/TCS’ deadline 5 submission/evidence. It covers points made at ISH3 and CAH2 and addresses the relevant PFL/TCS action points from those hearings.
2. It is apparent that the Applicant is beginning, belatedly, to understand PFL/TCS, but this comes not only very late but is still incomplete, and sadly grudging, with predictable consequences. The Applicant’s assessment of and approach to PFL/TCS is deficient, with the Applicant still unwilling to accept PFL/TCS’ importance to national (and international) health/safety, and its vulnerability, though now *apparently* acknowledging TCS’ very high sensitivity (but not PFL).¹ Where the Applicant is now offering some mitigation, it is doing so post-design, when it should have mitigated at the design stage, with avoidance considered first (as *per* the mitigation hierarchy).
3. In terms of PFL/TCS’ “asks”, on the assumptions the Replacement Land will be secured and that the Applicant will: (a) agree the PFL/TCS biosecurity measures; (b) provide appropriate noise mitigation, including separation, acoustic barriering, including around construction sites and construction access and any disruptively noisy permanent plant, and commit to rotary piling proximate to the PFL Holding; (c) commit to suitable advance ‘screening’ planting (though early indications are not encouraging); and (d) adjust the DCO Schedule 9 access, cable and substation rights wording (as discussed at CAH2), all of which are awaited from the Applicant at Deadline 5 (“D5”), then the principal “asks” remain that the Applicant: (i) remove field E23 from solar PV use, with E23 used for cable run only; and (ii) alter its Parcel 3 access arrangements generally.
4. As to those, the ExA can note that:

E23

- (i) The Applicant does not dispute PFL/TCS’ position that removal of E23 for use for solar panels would not be a material modification of the DCO (i.e. it would be within the powers of the Secretary of State to so modify, should the Secretary

¹ However, as discussed at ISH3, there is a lack of clarity here. See below.

of State otherwise be minded to grant) (the point was put consistently at CAH2 and the Applicant had repeated opportunity to disagree but, tellingly, did not).

- (ii) Nor does the Applicant, or the Claydon Estate (the landlord, present at CAH2 through Mr Tom Mason), dispute the proposition that if E23 is not required for solar panels, it would follow that it would be subject to a further long term tenancy to PFL along with the rest of the present FBT land in Parcel 3 not subject to above ground infrastructure/outside Order Limits altogether (i.e. for which vacant possession is not required) (again, this was consistently put, and not disputed).

Parcel 3 access arrangements

- (iii) Although the Applicant's transport expert Mr Buchan/its Construction Access Review **REP4-087** suggested the PFL/TCS' proposed access via Winslow Road has safety demerits as regards construction access, not only has the Applicant overplayed those, and also overplayed suggestions regarding required vegetation removal, and comparative distances, but the Applicant (a) has not suggested the Winslow Road alternative route would fail the EN-1 tests even as regards construction (and the alternative route was, of course, approved by the Statera Inspector, and the junction the Applicant identifies as problematic would be improved by the Statkraft proposals in any event); (b) does not suggest there is any reason not to use the Winslow Road route for operational access, rather than the Granborough Road (another point that was put repeatedly and with which the Applicant had repeated opportunity to disagree, but did not).
 - (iv) The Applicant's assessment of its proposed Granborough Road route in the ES and the Construction Access Review **REP4-087** has in any event: (a) downplayed the safety demerits of that route; and (b) failed entirely to factor in PFL as a receptor when assessing the merits/demerits, so (yet again, see below) failed to properly assess environmental impact having regard to PFL/TCS (and, note, there is no consideration of PFL as a receptor in the ES Chapter 15 (Transport and Access) **APP-058**, or Appendix 15.1 (Transport Assessment) (latest version **REP4-046**), or the Construction Access Review **REP4-087**).
 - (v) It goes without saying that the alteration of the Parcel 3 access arrangements would not be a material modification of the DCO, so is also within the Secretary of State's powers in the event of a decision to otherwise grant the DCO.
5. Matters are now taken on a topic basis, wherever possible by reference to the ISH3 and CAH2 agendas, with the PFL/TCS D5 "actions" from those hearings addressed at the most logical point, all clearly flagged by sub-headings, as follows:

- Correct approach to the balance of evidence (in this case, and as a matter of general principle).
 - Whether the Applicant has now correctly understood PFL/TCS, and assessed and approached matters accordingly, and implications either way, including for the EN-1 4.1.7/4.2.15 exception and Applicant's approach to mitigation, compulsory purchase and the statutory and policy tests.
 - Response to ISH3 Action Point 32.
 - Reasonable alternatives to the present Proposals.
 - The BESS (including analysis of the Applicant's position regarding the application of EN-1).
 - Response to ISH3 Action Point 49.
 - The Granborough Road access, access generally, E23, and ISH3 Action Points 26-28 and CAH2 Action Point 8.
 - Discussion of the mitigation assumptions (see above).
 - Other matters.
 - Conclusion.
6. The attachments to this document are itemised in the covering letter for these D5 submissions, and the list is not repeated here.

Correct approach to the balance of evidence (in this case, and as a matter of general principle)

7. On the core issues relevant to PFL/TCS, the evidential position is a remarkable one, in that:
- (1) The Applicant failed to correctly understand or assess PFL/TCS at the outset, and its efforts in that respect are belated, incomplete and remain faulty.
 - (2) PFL/TCS has brought forward a formidable breadth and depth of evidence, both its own and the evidence of independent professionals and experts, which explains and amply evidences: (a) the nature of the PFL/TCS operation; (b) the operation's importance to national, and international, health and public safety; (c) the operation's inherent vulnerability/sensitivity; (d) that the Proposals will adversely affect the operation and, crucially, will in all likelihood adversely affect the animal donor blood product, both as to quantity and quality, including with the mitigation (such as it is) presently proposed; (e) that this will be through a combination of land take, affecting ability to achieve necessary grazing levels and livestock movements,

and disturbance of the livestock causing stress; (f) and that this is even before account is taken of the obvious contamination/biosecurity risks the Proposals will introduce, and before account is taken of the particular, if unlikely, risks posed by the BESS in the event of a fire.

- (3) The Applicant has adduced no material evidence by way of counter to the evidence PFL/TCS have advanced. There is e.g. no counter evidence from anyone with expertise in the relevant fields, such as named veterinary surgeon, bio-diagnostic, stocking/grazing density etc, nor does the Applicant suggest there is.
- (4) Rather, the Applicant's consistent, and lawyerly, approach, faced with the mountain of evidence from PFL/TCS, has been to seek to pick holes and pose a series of questions aimed at suggesting PFL/TCS have failed to "prove" matters.
8. The ExA will be familiar from its own prior experience of planning inquiries and other DCO examinations that circumstances such as this may arise, where there is a "contest" over issues but a marked disparity in the evidence advanced on either side. Plainly, it will be for the ExA to consider the evidence, evaluate it, and weigh it. However, it may be salutary to reflect on the experience hard-won by judges faced with similar situations.
9. The approach the courts take, which approach is commended to the ExA, and ultimately to the Secretary of State, is to start with what is agreed, so is common ground, adding what is not disputed and also what is incontrovertible. So far as evidence is concerned, this collection is sometimes referred to, perhaps inaccurately, as the "objective" evidence. When that is done, it may be possible to better identify the issues that are truly disputed, and seek to resolve them. That will be done by holding up what is in dispute, against that "objective" evidence. The exercise will include consideration, relevant to the present circumstances, of whether one side has adduced credible expert evidence in support of a proposition, but the other side, although it disagrees, has not. In such circumstances, the decision-maker is likely to conclude that the proposition is, indeed, incontrovertible, or at least made out to the requisite standard.
10. A celebrated discussion of the judicial approach may be found in Lord Bingham's book *The Business of Judging, Selected Essays and Speeches, Oxford 2000*, cited numerous times by courts at all levels (up to the House of Lords/Supreme Court) and perhaps in particular in his essay, which focuses on assessing the credibility of witness evidence, but is of general application as to the approach: *The Judge as Juror: The Judicial Determination of Factual Issues*.
11. That approach, which should not be in any way controversial, when applied to the evidence in this case, leads inexorably to the conclusion that PFL/TCS' case is made

out, and made out notwithstanding lawyerly attempts to dilute the force of the evidence they have adduced.

Whether the Applicant has now correctly understood PFL/TCS, and assessed and approached matters accordingly, and implications either way, including for the EN-1 4.1.7/4.2.15 exception and Applicant's approach to mitigation, compulsory purchase and the statutory and policy tests

12. The Applicant has been desperately slow to understand PFL/TCS, and even now its understanding remains flawed and incomplete, which is then reflected in the way it continues to fail in its assessment of and approach of the joined businesses.
13. To take two examples of the Applicant's misunderstanding:
 - (1) The Applicant continues to rely on the answer given by the Parliamentary Under-Secretary for Health and Social Care to Parliament on 28 April 2026 in support of its contention that the exception in EN-1 4.1.7 and 4.2.15 is not engaged (*'The exception to this presumption of consent are residual impacts onshore and offshore which present an unacceptable risk to, or unacceptable interference with, human health and public safety...'*) (see e.g. the Applicant's response to Deadline 3 submissions **REP4-081** at 3.1.38 at p.30).
 - (2) In the Applicant's response to Deadline 3 submissions **REP4-081** it states (at 3.15.16 at p.149), in response to PFL's explanation of the requirements of the Animals (Scientific Procedures) Act 1986 ("ASPA"), and the associated Code of Practice and how the Holding is managed (and see also the PFL/TCS deadline 3 submission **REP3-067** at paras.20-42 and Appendix E, and the PFL/TCS deadline 4 submission **REP4-104** paras.19-33), that *'it is not accurate to portray the outdoor grazing fields as a laboratory in farm form'*, and generally seeks to pick holes in PFL's present biosecurity arrangements and the need for biosecurity measures.
14. That is before turning to the numerous examples of the Applicant's failure to assess PFL/TCS and/or assess them accurately, e.g. the updated ES Chapter 14 still understands PFL as employing a single farm manager and contains no recognition of the nature of the PFL/TCS business or their integrated nature, let alone why impact on them has to be judged in terms of impact upon their livestock and so impact on their product, there has been no assessment of noise, glare, visual etc impacts on their livestock, and even the Applicant's recent Construction Access Review **REP4-087** fails to factor in the impact on PFL/TCS when considering the merits of choice of route (as well as making numerous errors which lead to a flawed assessment there in any event). And so on.

15. PFL/TCS imagine the ExA might find it helpful to have the gaps summarised in a neat tabular form, and if time allows will seek to work that up for deadline 6.

Point (1): Applicant's continued reliance on the Parliamentary Under-Secretary of State's answer in support of its (apparent) claim that in the event of adverse effect on PFL/TCS' supply of animal donor blood, others would simply step in with no adverse effect

16. As to point (1) and as to EN-1 4.1.7 and 4.2.15, the exception there is made out (and quite clearly so). PFL/TCS have fully explained and evidenced the pathway from adverse impact on the PFL/TCS product, whether from loss of capacity due to loss of land from the Holding, contamination of blood due to biosecurity breach, or impairment of blood through livestock stress due to disturbance, to unacceptable risk to, or unacceptable interference with, human health and public safety, due to the critical importance of the PFL/TCS product to the bio-diagnostics industry in the UK and beyond. This includes, but is not limited to, the PFL/TCS animal donor blood meeting 60-70% of NHS annual demand (NHS annual demand estimated by BIVDA at 60 million blood-containing plates). See *inter alia* the evidence given with and in connection with the PFL/TCS: written representations **REP1-133** (see the BIVDA letter), and at ISH1-2 (not only the oral evidence from PFL/TCS but also the oral evidence of Helen Dent of BIVDA) and ISH3 and CAH2 and in **REP3-067** and **REP4-104**. This is not, as explained, PFL/TCS supplying donor blood *equivalent* to that 60-70% of estimated NHS annual demand, it is PFL/TCS supplying *the* donor blood that *meets* that NHS' annual demand (estimated) to the tune of 60-70% of it.
17. The evidence of the probability of adverse impact on the PFL/TCS product from the different pathways comes from the following:
- (i) As to loss of capacity, from PFL/TCS themselves (which begins with an understanding that the Holding is presently at full capacity).
 - (ii) As to contamination of blood due to biosecurity breach, from PFL/TCS themselves and from the Holding's Named Veterinary Surgeon ("the NVS").
 - (iii) As to impairment of blood through livestock stress due to disturbance, from PFL/TCS themselves and from the NVS, along with Sharp Acoustics as regards noise, and now augmented by the additional evidence submitted by this D5 pack.
18. As regards (iii), the ExA will recall PFL/TCS' evidence that even an activity as predictable as sheep shearing causes deterioration in the blood product.
19. As regards (ii), the ExA will recall PFL/TCS' evidence that the day of the Accompanied Site Inspection saw a remarkable spike in contamination with 4 contamination instances, which is highly unusual for a single day. PFL/TCS should not be penalised

because they run an exemplary operation and have managed to keep contamination so low for so many years.

20. As to Dr Morgan's question/query at ISH3, querying why PFL/TCS have not obtained evidence of contamination from TCS' customers, the ExA will appreciate that: (a) PFL/TCS have done remarkably well over decades to keep incidence of contamination low, and have quality systems in place to catch issues before product is shipped (though those systems cannot catch all issues); and (b) there are reasons PFL/TCS would prefer not to involve the TCS client base in this DCO examination.
21. As regards impact on human health/public safety if the PFL/TCS product is reduced or impaired, see the evidence from BIVDA (the document with PFL/TCS' written representations **REP1-133**, and also the oral evidence of Ms Dent), from the Royal College of Pathologists (the letter of 15 June 2026), from the UKHSA (its letters of 9 and 22 June 2026) from PFL/TCS themselves (amongst others).
22. As regards the Parliamentary Under-Secretary's answer, to the effect that *'there are a number of suppliers on NHS Supply Chain's current framework...which support a level of resilience across England'*, as PFL/TCS have explained, that was in the context of discussion of *'animal blood-enriched agar'*, i.e. the agar plates that the PFL/TCS' product (in particular the horse donor blood)² is used to make, of which there are, indeed, a number of suppliers. Not the actual animal donor blood, of which PFL/TCS is the only supplier in England and Wales and one of only two (and the larger of those two) in the UK.
23. As explained, animal donor blood has a short shelf life, is fragile and it does not lend itself to lengthy travel (despite much demand worldwide, the furthest TCS will readily supply is the Middle East).
24. Not only are there no other suppliers in England and Wales, and only one other supplier in the UK (also understood to be at capacity), but such suppliers as there are in Europe could not step in should PFL/TCS be significantly impacted, even if travel, licensing etc could be overcome (and see James Preston's evidence already given regarding a French supplier that has had to close down their own production due to climate stress making a self-sufficient-for-uncontaminated-feed holding impossible). As the Royal College of Pathologists have said (letter 15 June 2026, including in **REP4-104**) *'...importing from the EU is not viable'*. Further afield, there are suppliers in the US,

² Note, (and see **REP4-104**, in response to ISH1 Action Point 35), for reasons somewhat lost in the mists of time, in the UK horse donor blood is the preferred blood used for clinical bio-diagnostics, notably by the NHS, and sheep donor blood is the blood used for medical research. In Europe, by contrast, it is sheep donor blood that is used for clinical bio-diagnostics. These are very long established positions.

but they have their own issues, including reduced grazing due to climate change, a decline in sheep stocks generally, quality control differences, and the problems of distance, licenses and health certificates are considerable. Even if they could be negotiated, TCS is being approached by US customers for product, not the other way around (and TCS is being approached by customers globally, but is at capacity).

25. The Applicant has adopted a regular refrain, repeated at ISH3/CAH2, asserting that there is no ‘quantifiable’ evidence of an impact on health or public safety by reason of the Proposals’ impact on the PFL/TCS operation. It is wrong to do so.
26. First, there is the clearest possible ‘quantifiable’ evidence. Taking the NHS alone, PFL/TCS meets c.60-70% of its bio-diagnostic needs, in circumstances where there is no evidence (certainly none from the Applicant) that someone else would step in, and PFL/TCS is operating at capacity, without slack, and all the evidence, including expert evidence, is that the Proposals will result in a reduction of viable product.
27. On the basis of the Applicant’s Deadline 4 layout, including the E23 ‘arc’, PFL considers there is at the very least a high risk it would have to reduce its horse population, most likely by removing Herd 4 as shown on the accompanying maps to this document (see below). As explained on those maps, this arises from the loss of core grazing land (including E23, which is presently for food production, grazing and movement, but which due to the loss of the other Parcel 3 fields would have to become core grazing land if not used for solar PV) and the inability to retain practical livestock access through E23 to PFL’s freehold grazing land to the east. The remaining Holding would not provide sufficient equivalent grazing, rotation and operational flexibility to accommodate that herd sustainably. As noted above, horse blood is the principal donor blood used for UK clinical diagnostic applications (as also previously explained in **REP4-104**, in response to ISH1 Action Point 35).
28. At the ExA knows, PFL has six horse herds. So on the basis of the Proposals with E23 “in” for solar PV, there is a real risk that PFL will lose 16.66% of its horse donor blood, which means that c10-12% of the NHS’ current bio-diagnostic need is threatened simply by reason of inclusion of E23 for solar PV. That is before consideration is given to all the other threats the Proposals pose to the blood product, from contamination, disturbance of livestock etc.
29. It is also before cumulative impact with the proposed upgraded East Claydon substation is taken into account. It is highly likely that project will seek to take more of the Holding.
30. Second, the Applicant is rather transparently seeking to set up a straw man in order to knock it down. There is no requirement under EN-1 para. 4.1.7 and para. 4.2.15, or any of the other statutory or policy tests the ExA must apply, for PFL/TCS to minutely

‘quantify’ the impact on health or public safety. Rightly so. The policy language, in common with the other tests, is cast more broadly. Under EN-1 4.1.7/4.2.15, the ExA and ultimately the Secretary of State are tasked with considering whether there would be ‘*residual impacts*’ which ‘*present an unacceptable risk to, or unacceptable interference with, human health and public safety*’. The operative words are ‘unacceptable risk’ or unacceptable interference’. There is no requirement for some particular quantum threshold to be exceeded.

31. Third, whatever evidential test the Applicant is purporting to apply, it cannot be the balance-of-probabilities test: that has been satisfied many times over. There is a mountain of evidence before the ExA, and the Secretary of State, and nothing against it from the Applicant save assertion and attempts to poke holes.
32. The Parliamentary answer the Applicant relies upon also needs to be read in the context of the UKHSA’s letter to the ExA of 22 June 2026 **REP4-101**, which makes clear that it is not within UKHSA’s remit to comment on the impacts to businesses but then says this:

‘However, the supply of blood agar is critical to the UK’s public health system, medical and life sciences sectors and maintaining a robust, UK-based production capability is of significant national importance. Therefore, any aspects of the proposed development during its development or construction and operational phases that disrupts or adversely impacts the ability of Preston Farms Limited and TCS Biosciences Ltd to provide blood agar to the sectors mentioned above is concerning to UKHSA’

33. PFL/TCS respectfully direct the ExA to the evidence already submitted and heard, which includes evidence from the regulatory, scientific and health sector community, who understand the supply chain in depth, along with the further evidence submitted now at D5.

Point (2): Applicant’s apparent refusal to accept the Holding is better conceived of as laboratory in farm form than a farm simpliciter

34. As to point (2), contrary to the Applicant, PFL/TCS’ analogy that the Holding is best thought of as a laboratory in farm form is perfectly sound, and the Applicant’s focus on the differences between the Holding as a whole and a physical laboratory building misses the much more important points in common. Until the Applicant grasps this, it will continue to misunderstand why it is so important that livestock, including livestock movements, are separated from construction movements/work and stressors generally, both in terms of biosecurity, livestock disturbance and other impacts on the product (such as release of fumes from machinery).

35. This goes directly to what the Applicant is presently refusing or failing to do, e.g. remove E23 and the Granborough Road access, and provide the necessary other mitigation.
36. Although it is disappointing that the Applicant focuses on disputing the language used to explain the PFL/TCS operation, it is unfortunately not surprising.
37. PFL/TCS have never suggested that an outdoor grazing field is physically identical to an indoor cleanroom. “Laboratory in farm form” and “biosecurity bubble” are deliberately simple analogies used to explain this highly unusual integrated operation, yet the Applicant responds by seeking to nit-pick and undermine.
38. The analogy flows from the ASPA statutory regime under which PFL is licensed, with the Home Office Code of Practice setting legal minimum standards for animals held at such licensed establishments. The Code’s stated outcomes include protection of the animals, consistent high quality care and supporting “high quality, reliable scientific results through the reduction of environmental variables”. Home Office inspectors assess against those when considering compliance with ASPA and licence conditions.
39. The requirements PFL must meet under ASPA and its establishment licence include:³
- environmental conditions must be appropriate for animal health and welfare and checked daily;
 - installations and their operation must support reliable results and minimise distress
 - noise must not adversely affect animal welfare
 - animal health status must be maintained through health monitoring and microbiological surveillance
 - feed must be protected against chemical, physical and microbiological contamination
 - unauthorised access must be prevented
 - approved areas must not be used differently where that may adversely affect animal welfare
 - quarantine and acclimatisation facilities must be used where necessary

³ The PFL licence itself is, necessarily, confidential, and the ExA will understand why it is inappropriate to provide it to the public DCO examination. In any event, the licence itself is not needed to understand the material points. However, for the avoidance of any doubt (lest the Applicant continue its attempts to seek to take a point on this also), the licence is held by Preston Farms Ltd, and applies to the whole Holding. When the Applicant sought the licence on 18 June 2026, it was promptly informed of its confidential nature, and that provision into this public forum would be inappropriate.

- the NVS must advise on animal health, welfare, biosecurity and quarantine.
40. The Applicant's own Deadline 4 Preliminary Biosecurity Statement **REP4-086** appears to belatedly accept the PFL/TCS position regarding biosecurity as a matter of principle (albeit with details of the Applicant's proposed biosecurity mitigation to be worked up for D5), but **REP4-081** concurrently seeks to undermine that acceptance.
 41. However, the Applicant identifies no supporting evidence from any ASPA specialist, veterinary expert, animal scientist, donor blood specialist, diagnostic supply chain expert or indeed any relevant expert. The Applicant's written work appears to be a desk based rebuttal, reflective of legal drafting, rather than a piece of evidence.
 42. This can be seen through the various criticisms the Applicant seeks to mount based on matters of finer detail. It points to the fact of certain PROW across the Holding, ignoring the evidence PFL has already given about those, including their low and generally local (and understanding) usage. It points to the fact of existing heavy (farm) machinery, but ignores that machinery is kept silo'd in the different parts of the Holding so as to avoid contamination. It claims the silage clamp lacks a gate, yet it has a gate. It seeks to rely on the fact that livestock presently cross Granborough Road, ignoring the presently extraordinarily low traffic on that quiet, narrow, road (and the procedures PFL has in place around those movements, despite the presently remarkably low traffic usage). It overlooks the significance and importance of the Holding 'feeding itself' and the risk to that from introduction of contamination sources to the food supply. It skirts the fact that herds and flocks are (deliberately) separated. It misses the way the livestock presently benefit from hedge screening from potentially disturbing stressors, and so on.
 43. It is respectfully suggested that the ExA should prefer the evidence of PFL/TCS and the various professionals/regulators and professional/regulatory bodies that have provided evidence in support. A distinction must be drawn between operational evidence from a business which has managed this specialist system for decades, and been licensed under ASPA since its inception in 1986, the veterinary, scientific, quality control and diagnostic supply evidence submitted by PFL/TCS and provided in support, and the Applicant's unsupported advocacy, lacking professional expertise and grounding in the system being assessed. PFL/TCS have maintained the operation through decades of changing disease and biosecurity pressures, demonstrating experienced management of an extremely sensitive supply chain asset.
 44. There is no evidence that the PFL/TCS operation can safely absorb the significant additional new risks presented by the DCO Proposals.
 45. The combination of the Applicant's continuing misunderstanding of PFL/TCS, and its denial of their importance and their needs, alongside its *apparent* (it is unclear) recognition of TCS, now, as "very high sensitivity" (not PFL, the Applicant,

inexplicably, categorises that as “high” sensitivity⁴) and its shift towards detailed mitigation, induces a degree of cognitive dissonance, if not whiplash.

46. There is a fundamental contradiction in a position (the Applicant’s) which now (apparently) accepts very high/high sensitivity,⁵ but asserts that magnitude of change is only minor because effects can be managed through mitigation, land swaps and compensation. This, though, plainly ignores the mitigation hierarchy (which its own Design Approach Document purports to apply): avoid - reduce - mitigate - compensate. For PFL/TCS, that sequence has been reversed. There is a simple explanation for that: the Applicant has only engaged seriously with PFL/TCS at this eleventh hour. Whereas what should have been worked at, assiduously, is avoidance at source.
47. PFL/TCS have evidenced real risks, indeed the probability of adverse impact, in circumstances where those risks are avoidable or at least capable of meaningful mitigation with steps that would not prevent the Proposals, subject to non-material modifications. The Secretary of State should be clearly informed of these matters, and the risks to PFL/TCS should not be accepted merely because the Applicant has belatedly sketched a series of future management measures around Proposals which could still be altered to avoid the principal issues.
48. The implications of the Applicant’s failures of understanding and assessment infect every aspect of the Applicant’s approach to PFL/TCS.

Response to ISH3 Action Point 32 (clarify whether the letters of support from the NVS were provided in the full context of the applicant’s proposed mitigation package)

49. With the inevitable caveat that the Applicant’s proposed mitigation package has been, limited though it presently is, a moveable feast, the answer is yes, in that the NVS’ evidence was written with full knowledge of what the Applicant was at the relevant time/s proposing by way of mitigation. This can clearly be seen as regards the NVS’ Deadline 4 letter of 22 June 2026, which focuses on noise and vibration, in its references to the relevant noise material. Not that the “mitigation” set out to date amounts to much (and, necessarily, when the NVS wrote her earlier letter of 5 March 2026 included in **REP1-133**, there was even less proposed by way of mitigation, and the NVS’ letter of 20 April 2026, attached to PFL/TCS response to ExQ1 **REP2-107**, concerns why the-

⁴ Recall the discussion at ISH3, concerning Table 14.25 in the updated ES Population Chapter, **REP4-039**, but there is a distinct lack of clarity as to both the sensitivity scale used (and the scales in general) and what precisely is said about individual receptors, and in particular about PFL and TCS. PFL/TCS consider their sensitivity should be at the top end of any scale, given their value to health/public safety and the susceptibility of their operation to interference. It is unclear which ‘rung’ the Applicant means by ‘very high’ (and if it is not at the top end of the scale, it is incorrect).

⁵ See footnote above.

then proposed c.20m “corridor” through E23 would not be suitable, so necessarily engaged directly with the “mitigation” proposed at that time on that point).

50. However, in order to avoid any doubt, PFL/TCS have asked the Preston Farms NVS to consider this action point and respond to the ExA. See letter included in this D5 pack, which confirms the position and, yet again, provides compelling evidence that the likelihood is the livestock, and so the animal blood product, will be adversely affected by the Proposals, mitigation notwithstanding.

Reasonable alternatives to the Proposals

51. The EIA Regulations require an explanation of all reasonable alternatives considered, compulsory purchase principles require the exploration of all reasonable alternatives, and the question of reasonable alternatives necessarily runs through the overarching balancing exercises inherent in EN-1 4.1.7/4.2.15 and also s.104 of the Act, as well as the application of the mitigation hierarchy.
52. Whether something is a “reasonable alternative” will depend on whether it meets the project’s stated objectives, which the Applicant has set out for the Proposals at **APP-047** at 4.3.1 and **REP1-016** at 4.1.3 (and see **REP3-067** footnote 2 and A6.7).
53. By ExQ2.2.7, the ExA asked the Applicant to provide further explanation for the drawing of the “site boundary” red line identified in the Wintering Bird Survey Report undertaken in 2022 (**APP-089**, pp27-28). That red line was also clearly marked with “Parcel 1”, “Parcel 2” and “Parcel 3”. This question could equally have been asked of the Bat Survey (**APP-088**).
54. The Applicant’s response at **APP4-082** is not to provide an explanation or evidence, certainly not an explanation or evidence worthy of the name. Instead, it provides argument, as *per* at ISH1 and **REP3-049**, that this ‘*does not represent a Proposed Development boundary or final Order Limits. It reflects the extent of the survey area defined at an early stage of project development for ecological assessment*’.
55. This fails to grapple with both the evidence and the fundamental legal issues.
56. As to the evidence, it fails to grapple with the evidence of Mr Preston, orally and in writing, regarding what was explained to him by showing him (and so PFL/TCS), through a March 2022 actual physical walk around, regarding the extent of the northerly parcel we refer to as “Parcel 3”. For this, see **REP3-067**, both the main document and Appendix A and the Appendix B timeline, along with Mr Preston’s oral evidence.
57. The Applicant’s “explanation”, such as it is, cannot stand with Mr Preston’s evidence as to what he was shown, and when, regarding Parcel 3: that in 2022 what was envisaged was a much smaller Parcel 3 than the present, limited to two fields immediately around the East Claydon substation.

58. It cannot have been an accident that Mr Preston was shown just two fields for Parcel 3: it plainly was what the then-project team had in mind at that time. It coincides perfectly with what is found in the Wintering Birds Survey and Bat Survey in their figures explaining what was done in 2022.
59. The Applicant hints at shifts in the project team. That may well be, but it does not excuse the lack of evidence. It is simply implausible that Mr Preston was shown what he was “on the ground”, and that ecologists were sent off to undertake expensive surveys by reference to a site layout plan that directly accords with that, simply on a whim: at one point the red line shown in the Wintering Bird Survey and Bat Survey was an option under consideration, and if the Applicant team now lacks the relevant institutional memory that is no answer to the requirements of the EIA Regs or to the ExA’s question. If it really was the case that there was no such option, the ExA would have been shown contemporaneous documentation to that effect, but instead the contemporaneous evidence the ExA has (of Mr Preston and of what was done in March 2022 in the 2024 Wintering Bird and Bat documents) speaks with one voice.
60. It is obvious the 2022 proposal would have met the objective of being a NSIP.
61. It is therefore also obvious that it would have met what the Applicant itself has set out as the capacity “objective”.
62. Why does this matter?
63. It matters because the 2022 alternative would have avoided the most significant impacts on PFL/TCS. So it bites not merely in terms of the procedural requirements of the EIA Regs, but also the application of the substantive compulsory acquisition principles, mitigation hierarchy, planning balance etc. The Applicant’s **REP3-049** post-hearing note reference to paragraph 4.3.33 of EN-1 is no answer to those provisions.
64. And it matters in the context of the position that has been reached at present where, making all the assumptions set out in the Introduction to this document (which, notably, include some in the control of the Claydon Estate), the bright line point at which the Proposals fail the compulsory purchase test, and all the other tests, is in their access arrangements for Parcel 3 and in the taking of E23 for solar panels (rather than only cable run).
65. PFL/TCS are not drawing the line at what would be a minimalist position for the Proposals, consistent with what Mr Preston was shown in 2022 and what appears in the Wintering Birds and Bat Surveys. Rather, making those many assumptions, PFL/TCS draw the line at a position that is close to maximalist for the Proposals. In circumstances where, plainly, even if the solar capacity of E23 is taken as the Applicant’s claimed

maximum solar PV capacity of 15MW, all the Proposals' objectives would still be met, and similarly as regards the Applicant's insistence on access off the Granborough Road.

66. Yet the Applicant simply will not countenance anything other than maximisation at the expense of PFL/TCS. That is not the approach statute and policy require.

The BESS

67. The Applicant's argument at ISH3 was that the BESS enjoys the same policy support in terms of need/CNP as the solar farm electricity generating station, because it is associated development (see **EV9-003**) and so rides on its coattails. PFL/TCS disagree. The position is, briefly, addressed in stages.

68. The BESS is not an NSIP, and it could not be an NSIP in the absence of a specific statutory direction from the Secretary of State under s.35 of the Act.

69. No such direction has been made.

70. EN-1 para. 1.1.1 explains that it sets out national policy for the energy infrastructure '*described in Section 1.3 below*'.

71. Given that battery electrical storage is not a NSIP, it would be curious if Section 1.3 '*described it*'.

72. It does not.

73. Rather, EN-1 para. 1.3.4 explains that '*the Act defines the following forms of energy infrastructure as being an NSIP*', and necessarily battery electrical storage is not in that list. The remaining paragraphs of EN-1 Section 1.3 are concerned with, for example, s.35 directions (which do not apply here), and then we come to para. 1.3.12 on which the Applicant relied very heavily at ISH3, and in particular on these words:

'EN-1, in conjunction with any relevant technology specific NPS, will be the primary policy for Secretary of State decision making on associated development...'

74. That paragraph plainly *does not* "describe" any particular energy infrastructure for the purposes of EN-1 para. 1.1.1, and it is an obvious misconstruction to interpret it, as the Applicant did, on the basis that *any energy infrastructure that is 'associated development' is therefore 'described in Section 1.3' for the purposes of EN-1 1.1.1*.

75. EN-1 para.3.2.6 (within EN-1 Part 3), which paragraph was the focus of the ExA's ISH3 agenda item 2(b) and a fulcrum for the ISH3 debate, must be construed in this context. Its wording is this:

'The Secretary of State should assess all applications for development consent for the types of infrastructure covered by this NPS on the basis that the government

has demonstrated that there is a need for those types of infrastructure which is urgent, as described for each of them in this Part. ’

76. That wording cannot be expanded to include types of infrastructure *not* within EN-1 para. 1.1.1. Those types of infrastructure are, on any sensible reading, the types of infrastructure “covered” by the NPS.
77. It would require remarkably clear wording for energy infrastructure that is *not* NSIP, because it is not within the regular statutory NSIPs and is not the subject of a s.35 direction, and which is *not* within para. 1.1.1, to be ‘*covered by this NPS*’.
78. No such clear wording exists for battery electrical storage.
79. The key paragraphs in EN-1 Part 3, some of which the Applicant specifically pointed to at ISH3, are paras. 3.3.25-3.3.31. Nothing in the wording of those paragraphs comes close to what is needed, which would be words along the lines that notwithstanding battery electricity storage is not NSIP, and not within para.1.1.1, nevertheless it is “covered” by EN-1 and para.3.2.6 applies to it.
80. Nor is there any assistance for the Applicant in EN-1 para.4.2.5. Rather, that paragraph underlines that EN-1 is concerned with NSIPs. This can be clearly seen from the fourth bullet. In any event, there is no mention of battery electrical storage, and the reference to ‘*storage infrastructure*’ in the third bullet is consistent with NSIP storage.
81. These points of construction were not considered by the High Court in *Ross v Secretary of State* [2025] EWHC 1183 (Admin); [2025] P.T.S.R. 1895, nor *Fordham* [2024] EWHC 3553 (Admin), and are understood to remain free of authority. No doubt if there was authority on point that assisted the Applicant, it would have pointed the ExA to it.
82. The policy position is brought into particularly stark relief by the fact that the Applicant acknowledges the BESS is not needed for the solar energy farm (and also lacks the necessary grid connection offer).
83. Whilst the BESS is by no means at the top of PFL/TCS’ list of objections, plainly if the BESS was to be removed, the Applicant would find itself with land freed for other uses, which PFL/TCS suggest could and should result in a reduction of the land taken from the Holding.
84. The further points PFL/TCS have made regarding the BESS, and repeat, are that:
 - Adequate separation from the BESS is essential, not just for livestock but also grazing and feed production.
 - It is clear that the separation distances are inadequate in the event of BESS fire, and in the circumstances PFL/TCS do not understand why the Applicant will not fund

insurance to protect PFL/TCS against business interruption losses in the event of such a fire.

- PFL/TCS deliberately do not make this request of the impact of the Proposals generally, as they recognise the insurance market would be unlikely to offer such a policy, whereas it is believed it would for a readily defined event, with readily identifiable causation, such as a BESS fire.

Response to ISH3 Action Point 49 (provide veterinarian advice on the longer lasting impacts on the blood donor product and other side effects from contamination)

85. This Action Point arose in the context of discussion of the BESS and contamination in the event of a BESS fire, under the air quality item, and PFL/TCS have approached it on that basis (notwithstanding its rather broad and imprecise casting).

86. See attached appendix and see letter from the NVS.

87. It should also be noted that the issues raised there would apply more broadly should the Proposal cause livestock to be exposed to adverse effects to air quality.

88. As regards the other contamination consequence of a BESS fire, contamination of food production or grazing land, realistically in the event of such a fire PFL would have to put the fields affected out of use until the land was declared safe. It is impossible to put a meaningful timescale on that, given the variables involved.

The Granborough Road access, access generally, E23, and ISH3 Action Points 26-28 (see below) and CAH2 Action Point 8 *(Provide a plot-by-plot analysis of which plots of land the Preston Farms Ltd believe fail the compulsory acquisition tests and an explanation as to why)*

89. The present draft DCO (“dDCO”) would grant the Applicant either a full right to compulsorily acquire or rights to compulsorily acquire wide ranging “access rights” and “cable rights” and “substation connection rights”, and in one case temporary rights, over the following PFL plots (occupied by PFL through the tenant, its director Mrs Lynda Preston, and held under either an Agricultural Holdings Act tenancy (“AHA”) or a farm business tenancy (“FBT”), or held freehold):

Plot 6/13 (also shown as field E23, FBT): Full compulsory acquisition.

Plot 7/3 (also shown as fields E21 and E22, FBT): Full compulsory acquisition

Plot 7/5 (also shown as field SA51, FBT): Access rights, substation connection rights

Plot 7/9 and Plot 7/12 (also shown as fields E20, E11 and E10, FBT): Full compulsory acquisition

Plot 7/4 (also shown as field SA52, Freehold): Substation connection rights.

Plot 7/1 (also shown as fields SA58-SA59, FBT): Substation connection rights.

Plot 6/12 (also shown as fields SA46-50, AHA): Access rights and cable rights.

Plot 6/10 (also shown as fields SA35-45, AHA): Access rights and cable rights.

Plot 6/9 (also shown as field SA42, AHA): Temporary rights.

90. In terms of what would go where, of particular relevance to PFL/TCS' case as to where the Proposals cross to the wrong side of the line:

- On the basis of the present Proposals, there would be both construction and operational access running north off Granborough Road into Parcel 3 via an access road adjacent to the silage clamp in Plot 6/12 (SA46), continuing into Plot 6/13 (E23) and beyond.
- Plot 6/13 (Field E23) would have solar panels, in the “arc” the Applicant has presented, and cabling, as well as that access.
- Plot 6/10 (south of Granborough Road) would be subject to untrammelled access and cable rights.
- Plot 7/5 (close by Sion Farm) would be subject to untrammelled access and substation connection rights.

91. The indicative cabling is shown in **REP4-043**, Figure 3.7, which shows, inter alia, two parallel but materially separated cable runs broadly north/south through Plot 6/12 and Plot 6/13.

92. *As regards the construction and operational access off the Granborough Road*, the Applicant cannot satisfy the requirement to show a compelling case in the public interest, given the impact on PFL/TCS and the existence of a viable alternative via Winslow that has already been preferred by the Statera Inspector (and preferred to the Granborough Road).

93. As to the impact on PFL/TCS, it is clearly unacceptable that construction and operational traffic and construction works should be proximate to livestock and cross livestock paths.

94. The Applicant, through Mr Buchan and its Construction Access Review document **REP4-087**, voiced safety concerns regarding the Winslow Road alternative, but there was (rightly) no suggestion from the Applicant that the alternative would fail the EN-1 traffic/transport tests.

95. It was also apparent that, so far as material, the Applicant was considering the Winslow Road alternative for the first time. Far too late.

96. Moreover, PFL/TCS have now had the Winslow Road alternative, and the Applicant's Construction Access Review document, considered by an independent transport consultant, Mr Bruce Bamber of Railton TPC Ltd. Mr Bamber's conclusions are clear, and demonstrate that the Applicant has significantly underassessed (including failing to identify) the disbenefits of its proposed Granborough Road route, and failed to recognise the benefits of the alternative route. Contrary to the Applicant's position, correctly assessed, the alternative route is preferable (and preferable even in the absence of consideration of the impacts on PFL/TCS of the Applicant's proposed route).
97. Once the impact on PFL/TCS of the Applicant's proposed Granborough Road route is factored in, the 'compelling case' cannot be satisfied.
98. Moreover, it is entirely clear that the Applicant does not require operational access via Granborough Road, on any view (and did not dispute that at ISH3/CAH2, despite the point being pressed repeatedly).
99. Also, that there is no reason in any event for access to be hard up against the silage clamp, rather than east by the brook (subject to any separation required from the brook itself).
100. *As regards the cable runs*, PFL/TCS have asked why two materially separated runs are required. It awaits an answer, beyond the default 'operational flexibility' (which it is submitted plainly cannot satisfy the compulsory acquisition test for a compelling case).
101. *As regards E23*, the importance of this field to the functioning of the Holding has been explained at some length, but PFL/TCS provide further explanatory maps here in response to ISH3 action points 26-28.
102. The Applicant relies heavily on E23 being within FBT land which is subject to a notice to quit expiring at the end of September 2026, yet the Applicant misses the wood for the trees:
- (1) As matters stand, E23 is held by PFL (Mrs Preston), and all indications are that a further FBT will be granted.
 - (2) Even if E23 is carved out from that FBT, E23 cannot be viewed in isolation.
 - (3) To physically reach E23, the Applicant must acquire by compulsion rights over the AHA land to the south, to which E23 is immediately adjacent, unless the Applicant abandons its proposals to access from the south.
 - (4) Either way, the Applicant requires compulsory acquisition rights if E23 is to be used as part of its Proposals, and the Applicant must surmount the compulsory acquisition tests.

103. Moreover, any contrary to its surprising attempts to suggest otherwise, it is plainly the Applicant that has brought the situation it relies upon about. It is not disputed that the Claydon Estate have served the notice to quit in order to assist these Proposals. Indeed, the 18 June 2026 letter from the Claydon Estate provided to support the Applicant in the Applicant's 'tenancy' document **REP4-088** attests to just that. In the circumstances, the Applicant attempts a remarkable contortion: it seeks to suggest that the fact PFL/TCS is facing a notice to quit somehow has nothing to do with its Proposals, and that if anything PFL/TCS should consider themselves fortunate that e.g. further tenancies are being offered including the Replacement Land. This is perilously close to gaslighting: the reason PFL/TCS are threatened is this Proposal, pure and simple (and it can be noted that the Claydon Estate itself, including in its letter the Applicant has appended, does not say that PFL/TCS would be seeing the heart of their holding taken in any event, rightly so).
104. This cause and effect cannot, and must not, be ignored, however much the Applicant repeats and seeks to hide behind the mantra that a freeholder is entitled to do as they wish. The Applicant fails to engage with the question of whether it is these Proposals that are threatening PFL/TCS' security of tenure, because that question is an uncomfortable one. But it is also a necessary one.
105. Even if the Applicant does not need to surmount the compulsory acquisition tests for any given plot, it needs to overcome EN-1 4.1.7 and 4.2.15, the mitigation hierarchy, and the s.104 planning balance.
106. This in circumstances where it is clear, and not disputed by the Claydon Estate whose representative Mr Tom Mason was present at CAH2 if such a point was to be taken, that if the Applicant removed E23 from the Proposals in terms of solar panels/above ground operational infrastructure, then it would be part of the renewed 40 year FBT the Estate is proposing.
107. The Applicant suggests that E23 at maximum capacity would offer 15MW. That is less than 5% of the Proposals' total capacity, even after the recent removals in connection with the Bechstein bats which have reduced overall capacity somewhat (the Applicant suggested by 10MW).
108. That 15MW in any event ignores the "arc", and the Applicant indicated at CAH2 that with the "arc", the solar PV capacity of E23 would be some 10MW. So some 3%.
109. The "arc" in any event fails to provide the necessary livestock access to the grazing land to the east, so would have to be reduced further.
110. The Applicant has indicated that it would not be viable for E23 to be reduced further than the "arc". In which case E23 is not viable and should not be used for solar PV

(and, note, and query, given that the Applicant has not shown its own operational access on its “arc”, does it in fact accept that once that is factored in, with the additional reduction in solar PV capacity on top of the “arc” reduction, E23 becomes, necessarily, unviable?). If the Applicant will not relent, it will no doubt seek to do all that it can to manipulate and alter the “arc” layout in a way that maintains the 10MW capacity whilst purporting to address PFL/TCS’ points regarding access to the east, and no doubt its own operational access, but quite simply that will not work. PFL/TCS have shown (see below) the only arrangement that would allow for the required livestock movements, even before (and without prejudice to) their position that they cannot afford to lose any part of E23 for reasons of the grazing it offers.

111. The Applicant does not dispute the removal of E23 would not be a material modification, so it would be in the Secretary of State’s powers to grant the DCO but without E23 for solar panels.
112. Given the significant impact E23 with solar PV has on PFL/TCS, the Applicant cannot show the necessary compelling case, nor can it satisfy EN-1 in any event, nor the s.104 planning balance. It must come out, both for solar PV and for access.
113. *As regards the access and cable and substation connection rights* there is no justification for these, but as the Applicant indicated at CAH2 they would be cut down (and, note, cut down beyond the modification of Schedule 9 to the dDCO regarding cable rights the ExA has proposed by its schedule of 15 July 2026 **PD-018**). PFL/TCS await sight of those changes.

ISH3 Action Point 26 (*provide an animal movement plan for the purposes of responding to the proposed construction access route*)

114. PFL/TCS attach a plan which shows where the livestock presently moves and why the proposed construction access route is unacceptable, given it is not feasible to separate those movements from it.

ISH3 Action Point 27 (*following discussion between the parties, submitted an updated Draft Animal Movement Arc Plan, if and as refined*)

115. It is not clear to PFL/TCS whether this is an action point for them, but they have provided the Applicant with a plan, without prejudice to their position (and the reality) that they cannot afford to lose any part of E23 to solar panels, that shows the adjustments that would be required in order to allow for continued livestock movements. This includes livestock movements to the freehold land to the east, reached by way of the bridge over the brook, which the Applicant had overlooked in its deadline 4 “arc” plan, as well as the livestock movements required to be accommodated by the “arc”.

116. What neither the Applicant “arc”, nor the PFL/TCS plan attached, presently show is the Applicant’s proposed operational access route through E23. Necessarily, PFL/TCS do not show this, because they do not accept it should be there. Why the Applicant does not show this, is unclear (see above).

ISH3 Action Point 28 (provide further information on whether it is possible to use fields adjacent to E23 to allow for separation and movement of herds, and any practical issues around different times of year)

117. First, E23 is the only way to get to the freehold fields to the east (which together resemble the shape of a half a long-sleeved t-shirt). That is due to the brook and where the bridge over it is.
118. Second, as regards seasonality, whereas it might be possible for PFL/TCS to live with e.g. the non-availability of E23 over the wintering months, when the livestock are housed, that is not what the Applicant proposes: it seeks to have E23 for a construction access and 40 years of operational access and for 40-years operation of solar panel. Moreover, the Applicant is presently indicating a construction period materially running into years, including construction access over E23 for years, as opposed to over the wintering months (which would be a different matter). But what the Applicant should be doing, as PFL/TCS has said all along, and now evidenced through the report of Mr Bamber, traffic consultant, attached, is accessing via Winslow, for construction and operation. As e.g. Statera will.
119. Third, to further assist the ExA’s understanding of how the Holding functions now, and would (or rather would not without adverse impact) function with the Proposals as presently formulated, and how it might be possible to endure with the changes to E23 and the access arrangements sought, PFL/TCS have prepared a series of maps that show: (1) how the Holding is presently arranged (in terms of grazing, crop production, which horse herd is where and where the sheep flocks are⁶); (2) how the Holding would be in the event of the Proposals but without E23 for solar PV and with construction-only (not operational) access off the Granborough Road, and with that construction-only access moved over to the brook; (3) how the Holding would be in the event of the Proposals as presently formulated (including the “arc” for E23 and the present Granborough Road access proposals).
120. As regards the second part of the action point, in terms of which fields are used for what and when, simplistically, and as Mr Preston has explained, the livestock winters indoors for a non-fixed period, and there is then greater flexibility in terms of field usage earlier in the year when the livestock are let out, as there is much more grass

⁶ The sheep flocks are also separated, but for reasons explained on the maps the separate sheep flocks are not indicated on the maps, whereas the horse herds are.

per sq/ft of grazing field, and it is better quality and more nutrient rich, than later in the year. That means the livestock can be fed in a smaller area and allows for greater flexibility with field movements. Whereas later in the year, that flexibility reduces. Which is why the ability or inability to access the fields to the east of E23 for grazing becomes of critical importance in the context of the loss of so much of the core of the Holding to Parcel 3. And that is before factoring in that all of these matters are becoming increasingly important with the effects of climate change, and the hotter summers we are experiencing, which reduce the food that can be obtained from pasture, and equally affect the haylage and other feed that can be grown (at time of writing, drought conditions have now been declared across half of England, including the Thames Valley, so including the Holding).

121. In the event this action point is aimed partly at the Applicant's suggestion of "Temporary Land" elsewhere within Order Limits, apparently with a view to the livestock being moved there during the construction period, the land suggested is distant and lies beyond a busy road. It could not be used for grazing (or, for the avoidance of doubt, for the livestock full stop).

Mitigation that PFL/TCS would like to think can be assumed (see above)

122. At the head of this document, various assumptions regarding mitigation that should be delivered, and as to which there have been certain positive indications, albeit to differing degrees, are noted. Whilst the assumptions are objectively reasonable, in the sense that the mitigation is all eminently deliverable, it remains to be seen whether it will actually be delivered, and so it is a moot point where the assumptions will hold good. Beyond that, there are further moot points as to whether the mitigation will actually be delivered in practice and be effective.

123. The areas of mitigation are taken in turn.

The Replacement Land

124. As regards the Replacement Land, not only is that presently not secured, but PFL/TCS has recently had the unwelcome news that any internal fencing of that to bring it to grazing standard would be at its own expense, likewise for water. Even for the portion that is sufficiently southerly to be viable for general grazing (as opposed to emergency grazing), that would be a considerable outlay.

Biosecurity

125. The ExA have already seen PFL/TCS' standard biosecurity measures for visitors to the Holding at the Accompanied Site Inspection. As explained, it is necessary to go beyond that, given the nature and scale of what is proposed, and PFL/TCS have set that out at deadline 4. Despite some half-hearted attempts to rely on the fact that

PFL/TCS do not seek to impose biosecurity measures on the occasional PROW users who cross the Holding, there is no suggestion the Applicant will not commit to that. However, PFL/TCS await formal confirmation, and commitment, at D5. Assuming it will then be delivered, whether it will be effective is moot. As PFL/TCS have explained, the correct approach to biosecurity is to avoid the risk in the first place.

Noise mitigation (including acoustic barrier-ing) and visual screening

126. The Holding needs to be spared from, or separated from, construction and operational disturbance that would stress the livestock, so both noise and visual stressors (and any olfactory stressors, though there appears no suggestion of that save for the event of a BESS fire, as to which there will be greater concerns, and see above).
127. In the first instance, as the NVS explains, if noise or visual impact cannot be avoided, then it must be minimised (which is in line with the mitigation hierarchy). This includes noise because equipment must be used: in those circumstances, that should be equipment with low noise emissions.
128. There will need to be acoustic barriering to protect against disturbance from noise and screening to protect against visual disturbance.
129. As regards the acoustic barriering and screening apparently intended to achieve this, regrettably the Applicant has, to date, simply referred PFL/TCS to such information as is already in the CEMP and LEMP, rather than providing any detail that would or could give comfort.
130. As such, PFL/TCS has only vague gestures in the direction of acoustic barriering, and as regards screening, is presently without any commitment from the Applicant to deliver anything other than what is vaguely indicated by the LEMP: a certain range of height of planting by a point 10 years from planting from a certain range of species (the Applicant has pointed to planting 4-6m high and 15m deep along certain boundaries of the Holding by 10 years post planting).
131. In circumstances where the construction impact on PFL/TCS will be immediate once construction starts, and the operational impact on PFL/TCS immediate once operation starts, that falls grossly short of meaningful mitigation. What is needed is a commitment to achieve a certain density of planting, along with acoustic barriering, before construction or operation, as the case may be.
132. By way of example, at present, one of the control measures deployed at the Holding as regards visual disturbance is a number of high and thick hedges, that e.g. screen the livestock from the occasional passing vehicle. The Proposal will bring impacts out of all proportion to the present.

133. In terms of mitigation of visual disturbance, planting would need to be at least 3m high as well as the 15m deep indicated.
134. In terms of mitigation of disturbance from noise, clearly planting would not achieve that (not alone) so some form of acoustic barriering would be needed.
135. Presently, the Holding is so quiet (which tranquillity the Applicant has acknowledged), including even at the points where grazing fields run next to highways, that it is not necessary to seek to 'control' noise beyond the provision of hedges and natural separation.

Adjustment to DCO Schedule 9 wording

136. As noted above, the Applicant indicated at CAH2 that it would adjust wording within DCO Schedule 9 specifically concerning PFL/TCS. That is awaited at D5.

Other matters

137. The other outstanding action points are for deadline 6, and essentially concern the Statement of Common Ground and associated documents. The parties are continuing to work at those.

Conclusion

138. PFL/TCS trust that the Applicant will now relent regarding E23 and the Granborough Road access, and commit to the necessary other mitigation, in order that PFL/TCS can get on with the difficult business of attempting to manage in the face of the (then-modified) Proposals, and continue to provide a product that is critical for the health and safety of the nation.
139. If the Applicant does not do so, PFL/TCS ask the ExA to recommend, and the Secretary of State to, if otherwise minded to grant the DCO, modify the DCO accordingly.

Preston Farms Ltd and TCS Biosciences Ltd

**Authored by: [REDACTED] and [REDACTED] as to evidential matters, and
[REDACTED] 39 Essex Chambers, as to legal matters**

29 July 2026

PRESTON FARMS: COVER NOTE TO PLAN/MAP LAYOUTS IN APPENDIX TO DEADLINE 5 RESPONSE

- We have stated previously that we are at maximum capacity and have limited flexibility:
 - *Preston Farms presently runs at 100% capacity, so any disruption to the Holding will mean disruption to the biomedical supply chain. REP1-133 - PFL/TCS Written Representations*
 - *Many fields around the holding are rotated and are not always in grass, to maintain the high-yielding crops required to support the high stocking rate on the farm. The movement and use of land across the farm is not fixed or static. REP2-107 — PFL/TCS Responses to the Examining Authority's First Written Questions.*
 - *Our businesses are at full-capacity with their own regulatory, animal welfare, production and supply chain obligations. REP3-067 — PFL/TCS Deadline 3 Submission following ISH1–2*
- Capacity and stocking rate guidance:
 - For 420 adult horses and 3,500 adult sheep, housed from around mid-October to mid-April, guidance suggests:

Component	Reference	Central	Resilience
Horse grazing	210 ha	231 ha	252 ha
Horse winter forage	183 ha	206 ha	228 ha
Sheep grazing and forage	350 ha	350 ha	385 ha
Productive total	743 ha	787 ha	865 ha

Horse grazing

- The British Horse Society recommends approximately 0.4–0.6 hectares of permanent grazing per horse. Our horses are all required to be over 16 hands so would be at the top end of the estimate.
- While we disagree with the use of British Horse Society guidance regarding matters such as disturbance of horses through noise etc, the food requirement for a horse is a different matter, and relatively

standardised. If anything our horses would require more food than average given their size and usage.

Horse winter forage

- BHS states that horses should generally consume approximately 2–2.5% of bodyweight per day. Our calculation assumes:
 - 420 horses - average liveweight of 650 kg;
 - daily intake X% (in range 2-2.5%) of bodyweight;
 - 182 days housed;
 - 15% conservation and feeding losses; and
 - a planning forage yield of 6.4 tonnes of dry matter per hectare.
- So for a daily intake of 2%, 2.25% or 2.5% by our computation relying on BHS advice this requires approximately 183, 206 and 228 hectares respectively.
- Horse grazing and horse winter forage are shown separately (see above table) because the BHS land benchmark concerns permanent grazing and does not separately provide for six months of conserved feed.

Sheep grazing and forage

- SRUC¹ (a specialist agricultural research institution) describes a generalised forage based sheep system growing 6.4 tonnes DM/ha annually, with an average annual stocking rate of ten 70 kg ewes per hectare.
 - $3,500 \text{ sheep} \div 10 \text{ sheep/ha} = 350 \text{ ha}$
- The SRUC system is similar but does not fully reflect our ~six month housing and winter food requirements. As our ewes are also substantially larger than the 70 kg reference animals, the benchmark is likely to underestimate the actual land requirement. We have very conservatively increased the resilience case by 10% to 385 hectares.
- The table above represents productive agricultural land only. It excludes buildings, yards, tracks, manure handling, quarantine and isolation areas, shelter belts and land temporarily unavailable.
- No allowance for climate resilience or non-productive infrastructure has been added to the productive total.

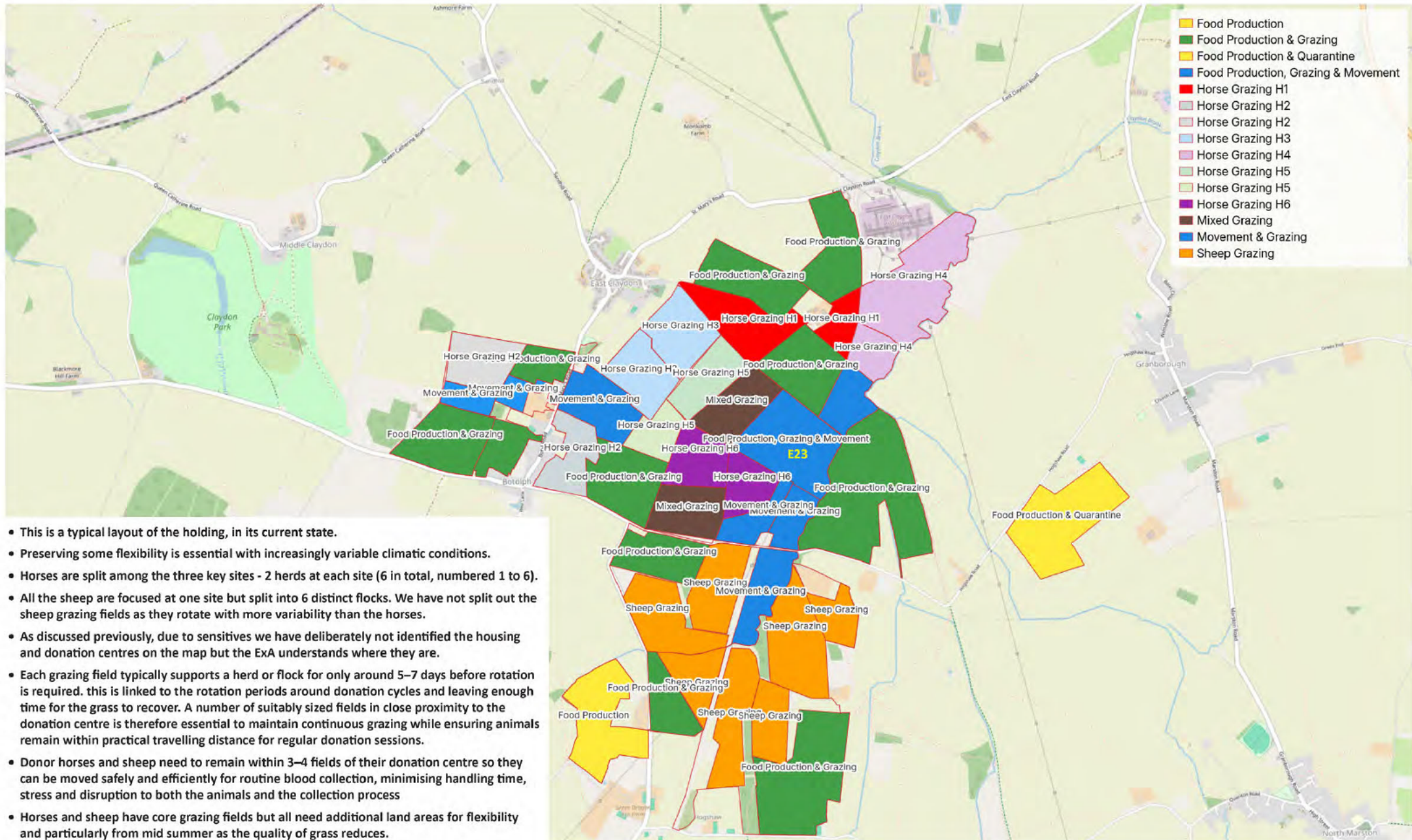
¹ Scotland's Rural College

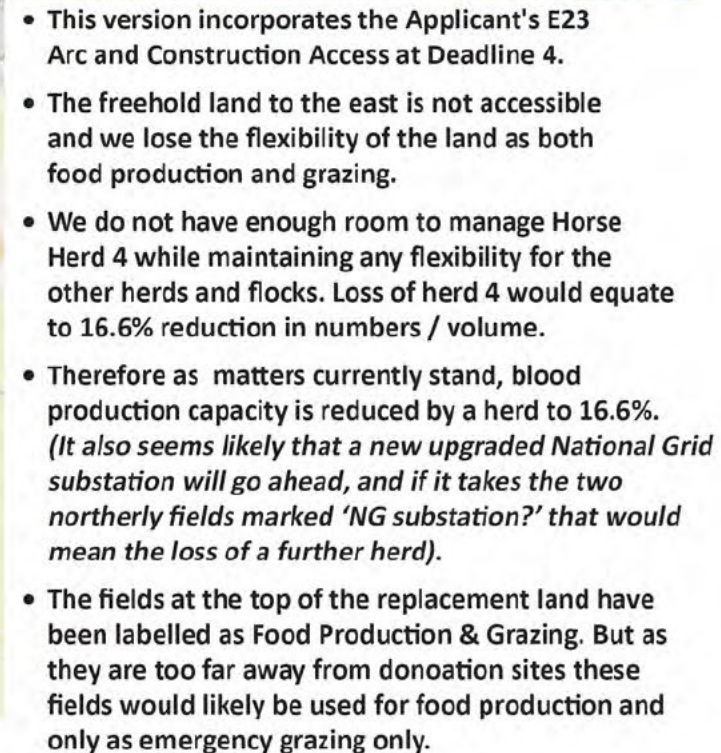
- Actual requirements will vary with soil, forage yield, weather, pasture condition, feed wastage and operational or biosecurity constraints.
 - In summary, guidance suggests a total of approximately 743–865 hectares (about 1,836 – 2,137 acres) would be required for the number of horses and sheep outlined above.
 - We currently manage on ~1300 acres (29-39% below the estimated land requirements outlined above). This is due to highly intensive, excellent management but it provides minimal flexibility for resilience.
 - For context, the wider Claydon Estate is about 5000 acres, the Applicant acknowledges that the area outside the redline boundary, but within the Claydon Estate holding, was not considered for the project.
- Outside of the Rosefield Project, we are likely to lose an additional 60 acres due to the East Claydon Substation upgrade and associated land take.
 - The warming climate is having a noticeable impact on our ability to manage animals and is testing our ability to manage the numbers of animals that we have.
 - Climate change is driving progressively hotter, drier and more variable summers in Buckinghamshire, reducing grass growth, increasing heat stress and steadily eroding the operational flexibility available to livestock systems.
 - The four years to 2025 were all among the five warmest recorded in the UK. 2026 looks to continue this trend and we are officially in drought for the second year running. The implication for food production and availability of reserves are extremely concerning.
 - Less food availability means the herds and flocks need to have a larger area to graze (particularly from mid-summer onwards). More flexibility (and ideally acreage) is required to cope with this trend, not less.
 - The heat means we are moving the animals very early and carefully and comes with additional risks.
 - As highlighted multiple times, stress impacts are noticeable in the blood - including due to weather, for example in sheep as per APHA ([Salmonella information for sheep buyers - GOV.UK](#)):
 - Stressed animals carrying Salmonella are likely to shed larger numbers of bacteria into the environment and become clinically ill.
 - Try to combine management procedures to reduce handling and mixing groups of sheep where possible.
 - Ensure that stocking densities are not too high (particularly during periods of climatic stress, e.g. drought) and each sheep has easy

access to clean water and trough space. Be aware of the stress caused by adverse or changing weather conditions.

- Salmonella is a bacterial contaminant that we have to periodically face and makes the donor blood unusable.
- Our farm system means the land provides two functions: providing summer grazing and winter food production while animals are housed from approximately mid-October to mid-April.
- The operation produces its own feed to protect animal health, biosecurity and traceability.
- A poor summer therefore creates a double deficit. Reduced grass growth increases the need to feed conserved forage during the grazing season, while drought simultaneously reduces the quantity of winter food available to replenish winter stocks.
- We have seen the impact of this first hand in a customer from Europe who used to produce their own donor blood but can no longer do so due to the changing climate. We cannot emphasize enough that this is a very highly sensitive and fragile supply chain.

Layout Version 1







29th July 2026

To Whom It May Concern:

Re: Request for Additional Information following Report Titled “Potential impact of noise, vibration and environmental disturbances on grazing animals at Preston Farms, Botolph Claydon”, dated 22nd June 2026

In response to the request for additional information from the applicant regarding the Rosefield Solar farm proposal, I can confirm my letter, dated 22nd June 2026, was written in full knowledge of the proposed mitigation package, the notes prepared by Sharps Acoustics and following an extensive discussion with Clive Bentley from Sharps Acoustics to ascertain the likely practical noise and vibration issues associated with the development, including those associated with the proposed mitigation package.

In addition to this and to my concerns raised in the above referenced letter, having read the Outline Construction Environmental Management Plan, I am particularly concerned by the use of the terms ‘where feasible’, in relation to the use of equipment with low noise emissions in Table 3.8: Noise and vibration. As I have stated previously, as Home Office Named Veterinary Surgeon (NVS) for the horses and sheep at Preston Farms, under the Animal (Scientific Procedures) Act 1986 (ASPAs), it is my responsibility to advise on the health, welfare and treatment of these animals. It is my professional opinion that the use of equipment with low noise emissions for this proposed development is essential at all times, not just for ‘where feasible’. These are highly sensitive animals, kept under the auspices of Preston Farms’ Home Office Licence, who’s needs and reactions to noxious stimuli, such as noise and vibrations, cannot be considered the same as ‘normal’ farm animals or riding horses. These concerns are also mirrored by the use of the term ‘where practicable’ in relation to the use of temporary enclosures to screen all static or semi-static plant from noise sensitive receptor locations and for noise control measures applied to plant and equipment to be ‘operated such that noise emissions are minimised as far as reasonably practicable’, in the same Table, 3.8.

It is also important to note that The British Horse Society document ‘Advice on Construction sites and horses’ referenced in Table 3.9 is written primarily in relation to riding horses, fully domesticated, handled on a daily basis and regularly exposed to levels of noise above ‘ambient’ noise levels to be expected in the countryside, not a highly sensitive, semi-feral population of horses who are handled by humans on average only twice a month, who are rarely exposed to noise levels higher than background noise, who’s welfare and management is regulated by ASPAs.

An additional mitigation recently proposed and detailed in the Outline Landscape and Ecological Management Plan is ‘strategic early planting in the form of woodland belts of at least 15m wide’ along sensitive boundaries. However, the proposed planting is in the form of ‘young transplants or whips’, which it is stated will not reach a significant height (specified as 4-6m) for 10 years. Whilst this planting may be a mitigation against long term effects of the proposed development on the sheep and horses at Preston Farms, it cannot be considered a mitigation in the short term, during the construction phase, when most of the disturbance from noise and visual stimuli would be expected to occur. As explained in my letter dated 22nd June 2026, the effect of unfamiliar and unexpected visual triggers on both the sheep and, to an even greater extent, the horses has the potential for severe negative behavioural responses, such as fleeing in fear. I therefore consider it essential that visual barriers are in place from day 1 of the construction phase, not several years down the line.



Given my extensive experience of dealing with the horses and sheep at Preston Farms, dating back over 20 years, and their likely response to the effects of the proposed development, it is my opinion that the proposed mitigations to counter the effects of noise, vibration and unexpected visual triggers on these highly sensitive, scientific animals are far below the levels required to maintain their welfare standards at an acceptable level.

SIGNED:



 **MA, VetMB, MRCVS**

ISH 3 Response to Action 49 - Air Quality

Provide veterinarian advice on the longer lasting impacts on the donor blood product and other side effects from contamination

We have looked at two main areas in relation to this question: impact of smoke inhalation on donor animals and the resulting potential changes to blood quality; and longer lasting effects and removal of donor animals from the production cycle.

Initial impact of smoke inhalation:

Most scientific studies relating to smoke inhalation and impact on blood refer to wildfires rather than BESS. It is reasonable to adopt a precautionary assumption here that the impact of smoke from a BESS fire will be equivalent to, or more severe than wildfire.

Acute inhalation may result in:

- Respiratory injury and reduced lung function
- Increased susceptibility to respiratory infection.
- Reduced appetite, dehydration and deterioration in body condition.
- Reduced exercise tolerance and compromised welfare.
- Inflammatory and stress responses.
- Impaired oxygen transport and altered blood-gas measurements.
- Changes to haematology and biochemical parameters.

Although livestock-specific data remain limited, the respiratory effects of smoke inhalation in horses are well recognised clinically. Sheep have also been widely used as an experimental model for smoke inhalation injury because their pulmonary response closely reflects that seen in larger mammals.

Smoke particles are significantly smaller than typical agricultural or road dust and penetrate deep into the lungs. Once inhaled they can:

- Irritate the eyes, nose, throat and airways
- Damage the airway lining
- Increase mucus production
- Impair the clearance of inhaled particles and microorganisms
- Narrow the airways and impair breathing
- Reduce the lungs' ability to transfer oxygen into the bloodstream
- Increase vascular permeability, leading to fluid accumulation within the lungs

The University of California, Davis School of Veterinary Medicine, in *Guidelines for Horses Exposed to Wildfire Smoke* (2017), states:

"The effects of smoke on horses are similar to effects on humans: irritation of the eyes and respiratory tract... High concentrations of particulates can cause persistent cough... Particulates can also alter the immune system and reduce the ability of the lungs to remove foreign materials, such as pollen and bacteria."

Horses are particularly vulnerable because they rely entirely on breathing through their noses and move large volumes of air, especially during exercise, handling or periods of stress. Consequently, they may inhale significantly greater quantities of smoke and airborne contaminants than many other species.

The same UC Davis guidance advises that smoke-related airway injury may require four to six weeks to heal. During this period affected animals would be withdrawn from donor sessions on animal welfare and ethical grounds alone. Given that Preston Farms manages donor horses in herds of approximately 70 animals, whether housed or at pasture, a single smoke event could remove a substantial proportion of the donor herd from service for an extended period.

The potential for permanent injury cannot be excluded. Its likelihood would depend upon the intensity and duration of exposure, prevailing weather conditions and how rapidly animals could be safely removed from the affected area.

Experimental studies in sheep demonstrate that smoke inhalation can cause significant airway and lung injury, much of it attributable to smoke particulates rather than gases alone (Lalonde et al., 1994). Further studies identified pulmonary oedema (fluid on the lungs), impaired lung function and progressive deterioration following exposure (Shimazu et al., 1996; Sakurai et al., 1998). Importantly, animals may initially appear clinically normal before severe respiratory compromise develops over the following 12-48 hours (Shimazu et al., 1990).

Recovery of Blood Quality and Biological Clearance

The effects of smoke inhalation extend beyond the health of the donor animal and must also be considered in relation to the quality of the donated blood. Blood used in the manufacture of Blood Agar Plates must provide a consistent nutrient source and reliably support bacterial growth, identification and antibiotic susceptibility testing.

The biological clearance of smoke-related contaminants depends on the substance involved, the level of exposure and the species affected. Preston Farms already adopts a precautionary approach to donor management. For example, where antibiotics are administered, animals are excluded from donor sessions for between 21 and 90 days after the final treatment, depending on the antibiotic used, to ensure complete clearance from the bloodstream and to eliminate any risk of affecting bacterial growth on Blood Agar Plates.

There are currently no published studies that define how long blood requires to recover following smoke or chemical exposure. In the absence of definitive evidence, a precautionary approach is therefore justified, with an appropriate recovery period before animals are returned to the donor programme.

Some contaminants, such as carbon monoxide, may be removed from the bloodstream within a few hours. Others, particularly metal-containing particulates associated with battery fires, may persist in the body for considerably longer, potentially several weeks.

Importantly, the recovery of the blood itself may take much longer than the clearance of the contaminant.

Red blood cells circulate for approximately 140-150 days in horses (Lording, 2008; Kämpf et al., 2019) and around 120 days in sheep, with published estimates ranging from 110-150 days (Tucker, 1963; Giles et al., 1975). Throughout this period, older cells are gradually replaced by newly formed red blood cells.

Consequently, while inhaled contaminants may disappear from the bloodstream within hours or days, any damage caused to circulating red blood cells may remain until those cells have been naturally replaced over a far longer period of time.

Even after an animal appears clinically recovered, the quality of its circulating blood may not have fully returned to normal. Smoke and chemical exposure can damage red blood cells, making them less stable and more fragile. This may reduce their suitability for use in Blood Agar Plates, where healthy, intact red blood cells are essential for consistent performance. Depending on the severity of exposure and subsequent veterinary assessment, blood collected during the recovery period may therefore be unsuitable, or of reduced quality, until normal blood characteristics have been fully restored.

Before supply could recommence following an event, it would be necessary to demonstrate that the blood itself remains fit for purpose. The absence of clinical signs alone cannot confirm that donated blood will consistently perform as required in the manufacture of Blood Agar Plates.

Infection risk

Regardless of species, the respiratory tract relies on mucus, cilia and immune cells to remove inhaled particles and microorganisms before they can cause disease. Smoke inhalation damages these natural defence mechanisms, increasing the likelihood that airborne bacteria, or bacteria normally present within the upper airways, can reach the lungs and cause infection. Studies in sheep have shown that smoke inhalation causes significant airway injury and progressive deterioration following exposure, while equine veterinary research consistently demonstrates that damage to the respiratory tract reduces the lungs' ability to clear bacteria, increasing the risk of secondary bacterial respiratory infections (Shimazu et al., 1990; Lalonde et al., 1994; Shimazu et al., 1996; Sakurai et al., 1998).

For donor animals, this increased susceptibility to infection is of particular importance. Horses and sheep showing any evidence of respiratory disease or other clinical illness would be excluded from the donor programme until they have fully recovered. Where veterinary treatment, including antibiotics, is required, animals would remain excluded until the infection has resolved and any applicable veterinary withdrawal period has been completed.

The effects on whole blood and its suitability for inclusion as a nutrient in Blood Agar Plates

Blood agar plates rely on donor animal blood for much more than simply helping bacteria grow. While the agar itself provides most of the nutrients, the added sheep or horse blood supplies healthy red blood cells and other natural components that allow many important disease-causing bacteria to grow properly. The quality of the donor blood is therefore critical,

as damaged or poor-quality blood can reduce the performance and reliability of the finished blood agar plate.

The red blood cells also provide one of the most important diagnostic features of blood agar. Some bacteria produce toxins that break down red blood cells, creating clear or coloured zones around the bacterial colonies. These haemolytic patterns help the laboratory identify different types of bacteria and are often one of the first clues used in diagnosing infection, as well as selecting the most appropriate antibiotic for treatment.

High quality and robust red blood cells are therefore essential for producing accurate and consistent diagnostic results and treatment pathways. Anything altering red cell physiology therefore becomes important, and smoke exposure could potentially influence blood through several mechanisms such as increase in inflammatory mediators (cortisol, cytokines etc), oxidative injury within circulating blood cells leading to reduced membrane flexibility, increased fragility of blood cells, shortened blood cell lifespan. This oxidative injury increases the risk of inconsistent packed cell volume within the donor blood itself, while promoting increased haemolysis during manufacture, altered haemolytic reactions and reduced product consistency of the blood agar plates.

The greatest concern is a loss of consistency. Clinical microbiology depends upon reproducible media, and potential consequences include:

- poorer recovery of fastidious organisms
- subtle changes in haemolysis
- increased batch variability
- reduced quality control reproducibility
- shortened media shelf life if red cells become more fragile

Conclusion

Smoke inhalation presents risks that extend well beyond the immediate welfare of donor animals. Depending on the severity of exposure, it may cause acute respiratory injury, increase susceptibility to bacterial infection and result in prolonged recovery, during which animals would be unsuitable for blood donation on both veterinary and ethical grounds.

Importantly, recovery of the animal does not necessarily mean recovery of the donated blood. While many inhaled contaminants may be cleared from the circulation within days or weeks, circulating red blood cells remain in the body for several months. Any oxidative or inflammatory damage sustained by those cells may therefore persist long after visible clinical signs have resolved.

Blood Agar Plates depend upon healthy, robust red blood cells to provide both a consistent nutrient source and reliable haemolytic reactions. Even subtle reductions in red cell integrity have the potential to reduce batch consistency, affect microbiological performance and compromise confidence in diagnostic results.

In the absence of published evidence demonstrating when blood quality has fully recovered following smoke or chemical exposure, the precautionary principle should apply. Donor animals exposed to significant smoke events should not return to the donor programme until

both their clinical condition and the quality of their blood have been objectively demonstrated to be fit for purpose. This approach protects animal welfare, safeguards the manufacture of Blood Agar Plates and maintains the reliability of products that underpin clinical microbiology and patient diagnostics.



29th July 2026

To Whom It May Concern:

Re: Potential Effects of Battery Energy Storage System Fire

The question of the effects of a potential Battery Energy Storage System (BESS) fire has been raised. Any such fire is likely to have a significant negative impact the air quality which the sheep and horse at Preston Farms are exposed to, due to the smoke and other noxious airborne particles would be generated by such an event. This is of particular concern with regards to the horses, who are especially sensitive to the effects of airborne pollutants.

Increased exposure to such pollutants may result in the development of both upper and lower respiratory issues, all of which would result in the welfare of the animals being compromised and may necessitate the animals being temporarily or permanently removed from the herds on the farm. These issues may present in the form of nose bleeds (epistaxis), pharyngitis, laryngitis, equine asthma and pneumonia, as just a few examples. These pathologies would be expected to produce inflammatory and stress responses and may result in reduced exercise tolerance, affecting the animal's ability to be safely moved around the farm, acute respiratory distress, potentially leading to collapsing and fatal asphyxiation, and physiological effects, such as changes to haematological and biochemical parameters.

I therefore consider there to be potential extremely serious consequences for the sheep and horses at Preston Farms in the event of a BESS fire. There is potential for long term morbidity in these animals were such a fire to occur, which may result in them being removed from the herds on either a temporary or permanent basis.

SIGNED:



A, VetMB, MRCVS

To Whom It May Concern,

RE: Critical assessment of the likely or potential haematological or physiological changes related to harvesting of biological products, due to noise, vibration and environmental disturbances resulting from installation of a juxtapositioned solar farm, in grazing animals (horse and sheep) at Preston Farm, Botolph Claydon.

I am a veterinary surgeon, qualifying from the Royal Veterinary College, UK, in 2007, and have undertaken postgraduate qualifications to become a large animal internal medicine specialist (Diplomat of the American College of Veterinary Internal Medicine), as well as a veterinary clinical pathology (haematology, biochemistry, cytology and urinalysis) specialist (Diplomat of the American College of Veterinary Pathologists). As such, I am well placed to comment upon how stress, arising from noise, vibration and other environmental disturbances, may affect the physiology and composition of blood in horses and sheep, and the consequent impacts on blood quality at Preston Farm, Botolph Claydon, due to proposed installation of a solar farm adjacent to this site. The testimonial I provide is my own assessment of this situation, based upon well-established physiological responses, and my own clinical experiences.

I have assessed the documentation outlined in the EN010158-001266-PFL NSP, including testimonials prepared by Sharps Acoustics, the Named Veterinary Surgeon responsible for animal welfare at Preston Farm, the Chief Scientific Officer, and President of the Royal College of Pathologists, and specifically the TCS Supporting Note on Stress, Environmental Disturbance and Blood Physiology (Consensus statement generated with AI assistance). As well as familiarizing myself with the animal management and handling, and biological material harvesting at Preston Farm, and the relevant information regarding the proposed solar development adjacent to Preston Farm. My testimonial will focus on the likely or potential effects to donor blood from the *already thoroughly discussed expected stressors of noise, vibrations and environmental disturbances* from the building of the solar farm near to Preston Farm (covered extensively elsewhere by appropriate experts). I will refer the reader back to the TCS Supporting Note on Stress, Environmental Disturbance and Blood Physiology, where additional information is presented, to prevent duplication.

Mammalian Stress Physiology

The main physiological responses to internal and external pressures that threaten to disrupt the homeostasis of the mammalian body are the acute reaction; ‘fight-flight-freeze’ or sympathetic drive (main hormone: epinephrine (aka adrenaline) leading to transient changes), and the longer term or chronic response; stress (hypothalamic-pituitary-adrenal (HPA) axis leading to release of corticosteroid hormones), and this alters metabolism and

suppresses non-essential functions (digestion, immunity etc.) to redirect energy to enhance surviving during the period of negative stimulus.

Tüfekci H *et al.* 2023 states ‘The stimuli that trigger stress are not necessarily painful, but psychological states such as fear or anxiety activate physiological responses that could impose a deleterious impact on the animal. When the animal perceives a threat, it develops a behavioral, autonomic, endocrine, or immune response to maintain homeostasis’. Where an animal is unable to escape from the stressor (noise, vibrations, and environmental changes), this may cause significant disturbances in the function and systems of the body, as well as behavioural variations. Stress-induced responses are correlated, not only to the type of stressor, and its intensity and duration, but also to the individual animal’s stress-threshold, temperament and responses (as illustrated for sheep In: Kumar B., 2012, and horses In: Nowak AC *et al.*, 2025). The degree to which epinephrine- or corticosteroid-induced physiological changes occur in individual animals greatly varies, and is often affected by age, sex, breed, personality, time of year/season, ambient temperatures, herd status/rank order, and presence of other comorbidities/disease (Nowak AC *et al.* 2025).

Mammalian blood comprises a cellular component (red and white blood cells (RBCs, and WBCs) and platelets) and an aqueous or plasma phase. Plasma makes up approximately 55% of the total blood volume, itself comprising mainly water, with dissolved proteins (such as albumin, globulin and fibrinogen), glucose, electrolytes and mineral ions, hormones, gases, and other waste products (Walton RM and Lawson CA 2021). These components are maintained within strict physiological homeostatic parameters, and any significant changes can lead to meaningful haematology disturbances, and changes in quality.

Haematology Changes Due to Stress; Cellular Responses

One of the main stress-induced haematological changes seen in horse and sheep results from either a relative (due to reduced plasma or water volume) or absolute increase in the number of RBCs (termed erythrocytosis). Relative erythrocytosis will typically occur secondary to dehydration e.g. due to reduced water intake (behavioural change), and/or increased sweating (acute stress-response). The study highlighted in the TCS Supporting Note on Stress, Environmental Disturbance and Blood Physiology (P33 and 36) authored by Pascual-Alonso M, *et al.* 2016 indicated that, even with short-term stress (transportation), sheep can lose significant amounts of weight (~1kg compared to controls), likely due to dehydration. Whilst absolute erythrocytosis is often due to transient excitation (epinephrine mediated) causing splenic contraction (the equine spleen can hold up to 1/3 of the RBC mass!) (Walton RM and Lawson CA 2021). It should also be noted that epinephrine-driven excitation changes are more commonly seen in younger animals, or those not fully

domesticated (i.e. the herds present at Preston Farms). *These changes will likely lead to a significant reduction in the harvested plasma volume from donor animals and thus contribute to a potential shortage of animal plasma products.*

The WBC (leukogram) response to corticosteroids is very well documented in mammals (horse, and sheep), and includes an increase in total WBCs (leukocytosis), neutrophil (neutrophilia) and (variably) monocyte (monocytosis) counts (often due to release of margined cells from the vessel walls), and a reduction in the lymphocyte (lymphopenia) (likely caused by increases in trafficking to the lymphoid nodes, and tissues) and eosinophil (eosinopenia) counts (this pattern is often described as a 'stress leukogram'). A mature neutrophilia, variably with a mild increase in the lymphocyte (lymphocytosis) count is seen with epinephrine-driven excitation (transient, often <60mins) (Stockham and Scott 2008). *Although the leukocytosis is often of a lower magnitude than the corticosteroid induced erythrocytosis, this can contribute to relative reductions in plasma volume; again, leading to potential reductions in the harvestable blood products.*

Coagulation testing.

Stress has been shown, in general terms, to impact equine and ruminant coagulation, similarly, primarily shifting the body into a hypercoagulable (prothrombotic) state (meaning the blood will clot more quickly) (Wagner AE 2010 and Koch *et al.* 2025). This is achieved through a complex activation of pro-coagulation pathways; both the release of epinephrine and cortisol trigger platelet activation (making them become 'stickier' to promote clot formation) (as highlighted indirectly by Miglo A *et al.* 2024), certain clotting factor concentrations increase due to stimulation of the liver to rapidly produce acute-phase proteins (mainly fibrinogen) (Walsh K 2021). I refer specifically to two studies discussed in the TCS Supporting Note on Stress, Environmental Disturbance and Blood Physiology (P32), Toukh *et al.* 2014 and Munzel *et al.* 2017, showing laboratory-rodents exposed to increased environmental noise, show increased markers of stress, hypercoagulability, and vascular oxidative stress. In addition, compared to humans, sheep also demonstrate a natural propensity for rapid contact pathway activation (one mechanism stimulating PLT activation and clot formation), and a reduction in the capacity for clot lysis (Foley SR, *et al.* 2014).

It should be first noted, that whilst there is a large body of literature showing that stress (or perceived stressful, or painful situations) will significantly alter individual tests assessing certain areas of the coagulation pathway, *in vivo* coagulation is a complex and highly regulated system. Thus, whilst the true effect of stress on *in vivo* coagulation will likely be multifactorial, and real-world coagulation issues are not typically seen in mild to moderately stressed horses or sheep, *the effects to harvested blood, with faster clotting times, and*

increased clotting waste (by-products produced when blood is allowed to clot outside of the body) will likely be significant. In turn this could reduce the quality and quantity of usual blood-products that enter the supply chain, ultimately leading to shortages.

This phenomenon is already documented at Preston Farm and is frequently observed following necessary welfare interventions (e.g. shearing of sheep, vaccination of animals, routine dental care etc.) close to blood harvesting. Whilst decades of experience by the Preston Farm personnel allow for mitigating changes to be implemented around these 'stressful' (but vital) interventions, this will almost certainly not be the case with an evolving building project, on the scale being proposed for the solar farm, unless prior planning is instigated.

The herd of horse and sheep donors at Preston Farm will be accustomed to regular jugular vein venipuncture for harvesting of whole blood. Routine venipuncture will unavoidably lead to degrees of vascular damage, a known trigger for thrombosis (Dolente BA, *et al.* 2005), and overlapped with stress-associated hypercoagulability (and potentially other risk factors such as bacteraemia, or endotoxaemia; please see below) this could lead to an increased incidence of thrombosis in these animals. *This would lead to a reduction in the available donor animal numbers, and available supply.*

Changes in Blood Quality:

Changes in the quality of the blood refer to accumulation of soluble and insoluble products within the aqueous phase of the blood (plasma) which can contribute to unsuitable or unusable blood product quality:

1) Haemolysis refers to the lysis or bursting of RBCs resulting in release of haemoglobin into the plasma. This can lead to significant, visually apparent, plasma discolouration (light yellow to red). Increased stress may lead to mechanical damage or indirectly to increased RBC fragility, making haemolysis more likely. For instance, if behavioural changes (increased fractiousness, reactivity) occur, secondary to the environmental perturbations from the solar farm installation, harvesting of blood may become more difficult. Under acute stress responses, release of immature RBCs from splenic contraction (please see above; can increase the RBC numbers by up to 1/3) is also often seen (rubricytosis) and these cells can also be more susceptible to mechanical damage, due to their immaturity. Taken together this is likely to increase the incidence of shear or mechanical damage to the RBC as they enter the collection tubing and bags, promoting RBC haemolysis. In addition, increased lipid concentrations can lead to haemolysis (see below). *Discolouration of harvested plasma (or serum) can cause problems with colourmetric assays performed on the blood, e.g to assess*

protein concentrations, enzymatic activities etc., leading to potentially unusable blood products.

2) Lipaemia typically refers to increased concentrations of (predominantly) triglycerides (fat) in the plasma, resulting in the aqueous phase of the blood turning opaquely white. *This could render the product unusable or may enforce additional processing steps to remove the fat proportion.* This can occur with many different mechanisms, but a common cause is due to stress, especially where the horse or sheep may have other comorbidities (e.g. insulin dysregulation, a negative energy balance, etc.) (Walton 2021). Any form of chronic stress could act as a predisposing factor to the development of significant hyperlipaemia, where confounded by other morbidities (e.g. infection etc.).

Immunity and Infectious Agents:

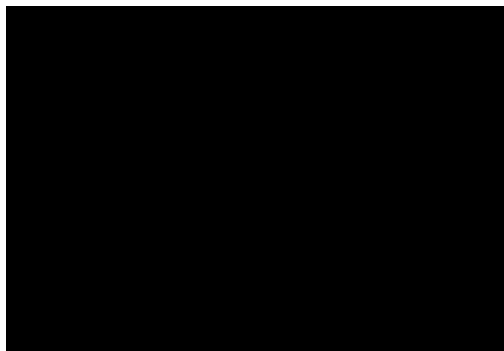
Corticosteroids are a potent immunosuppressive agent. This immunosuppression is multifactorial; reducing lymphocyte production, proliferation, and activation, reducing NK cell numbers, and blocking cytokine (inflammatory hormones etc.) production. Immunosuppression can lead to increased animal susceptibility to developing and perpetuating infections (viral, bacterial, parasitic, most commonly), and one of the most reported is increased shedding of faecal parasites (Sotiraki ST, *et al.* 1999) and bacteria, mainly *Salmonella* spp. (for example: Owen RA, *et al.* Am J Vet Res. 1983) during periods of increased stress (e.g. shearing, pregnancy, lactation, transportation etc.). This not only poses a disease risk to other herd-mates, but also a zoonotic risk to the farm personnel. *Specifically, in this type of animal facility, this could contribute to increased skin-surface contamination (e.g. at the blood collection site) as well as development of a bacteraemia (bacteria present within the circulating blood) or endotoxaemia (bacterial endotoxin present within the blood) due to impairment of the gastrointestinal barrier (multifactorial; direct consequences of corticosteroids on the wall integrity, as well as reduced immunity and changes in gut microbiome). Both of which, could contribute to direct contamination of the harvested blood used for human-related medical supplies (including individual and batched products) and again, rendering them unusable.*

Individual animal susceptibility to development of clinical infections will also be increased by moderate stress levels, most commonly contributing to the development of gastroenteritis or colitis (e.g. with diarrhoea as a frequent symptom that will worsen environment bacteria contamination), and pneumonia (also potentially contributed to by the proposed building works through increased airborne dust contamination etc.). Any donor animal showing signs of infection will receive appropriate veterinary care, and will be excluded from the donor programme, until they return to clinical normality and all

appropriate medicinal withdrawal periods are adhered to (antibiotics etc.). *Thus, the effects of stress on immunity, and development of infections can be wide-reaching and are likely to have a profound negative impact on the commercial supply of blood and blood products into the human health care system.*

Based on the evidence provided and my clinical experiences presented in this letter, it is my opinion that the noise, vibration and environmental disturbances associated with the proposed solar farm development adjacent to Preston Farm are likely to induce both acute and chronic stress responses in donor horses and sheep. These responses have the potential to cause significant haematological, coagulation, metabolic and immunological alterations, including reduced plasma yield, changes in blood cell counts, increased clotting tendency, impaired blood quality through haemolysis and lipaemia, and a heightened risk of infectious disease and contamination. Given the sensitivity of biological product harvesting to such physiological changes, and the individual variability in animal responses to environmental stressors, these effects could materially reduce both the quality and quantity of blood-derived products entering the healthcare supply chain. Consequently, the proposed development presents a credible risk to the reliability and sustainability of biological product production at Preston Farm.

Yours sincerely,



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To Whom It May Concern,

RE: What are the physiological changes in blood products and blood containing media in stressed donors. What are the impacts of these in the real world.

I am an accomplished Biomedical and Chartered Scientist with more than 40 years' experience operating, managing, and transforming microbiology laboratories across clinical, public health, military, and international settings. My expertise spans all aspects of laboratory microbiology and public health, supported by deep technical knowledge and extensive leadership experience in high-containment and complex laboratory environments.

As a Fellow of the Institute of Biomedical Science, I am recognised for delivering safe, resilient, and high-performing laboratory systems in both advanced and resource-limited contexts. I am semi-retired and currently serve as Managing Director of PathAble Ltd, providing specialist consultancy across public health, healthcare, academia, and international development.

Previously, I held the role of Head of Technical and Scientific Services at Public Health England (PHE), where I provided strategic and operational oversight for the entire network of PHE laboratories across England and international sites. I was awarded an OBE for services to Public Health following my contribution to the West African Ebola epidemic.

This breadth and depth of experience demonstrates that I am fully qualified to comment on and advise regarding the microbiological impact of a proposed solar farm adjacent to Preston Farm.

Introduction

1. Donor animal blood is a specialist biological raw material whose diagnostic performance depends upon the quality, robustness and consistency of intact red blood cells. As such, and unlike chemically defined media, the blood containing agar produced using donor animal blood contains an organic biological component that performs an active diagnostic function. *The* integrity of donor erythrocytes determines the clarity, reproducibility and confidence with which haemolytic reactions (the destruction or rupturing of red blood cells, which causes them to release their contents, like hemoglobin, into the fluid around them) are interpreted in clinical microbiology.
2. Therefore, Blood containing agar performance depends not only on manufacturing controls but also on the physical condition of the donor animal at the time of collection. Horses and sheep respond to disturbance through well-established endocrine pathways involving adrenaline and cortisol. This means that the relevant question is not simply whether an animal remains clinically healthy, but



whether avoidable disturbance introduces unnecessary biological variability into a critical diagnostic raw material.

3. Stress alters endocrine physiology, oxidative balance, coagulation and erythrocyte membrane biology. In horses, splenic contraction rapidly changes the circulating red-cell population of the cells to fluid ratio of blood, (termed Pack Cell Volume (PCV) or haematocrit in scientific journals), which is normally around 40% for horses and 35% for sheep, while sheep exhibit measurable endocrine and haematological responses to disturbance. These changes increase the susceptibility of red blood cells to haemolysis and reduce their mechanical resilience. The precise response varies between animals, making retrospective identification difficult but increasing manufacturing variability.
4. Acute, i.e sudden, psychological or physiological stress in sheep and horses (and indeed humans) triggers a well-established hormonal stress response, resulting in endocrine, haematological and biochemical changes that can affect blood quality at the time of collection. Elevated adrenaline and cortisol increase oxidative stress, alter red blood cell membrane stability and make erythrocytes more susceptible to haemolysis during processing and storage.
5. I am aware that PFL and TCS's operational experience supports these mechanisms. Production records show that even controlled disturbances, such as sheep shearing, have lead to increased clotting, product wastage and premature haemolysis, highlighting the importance of maintaining stable, low-stress donor conditions.
6. TCS also reports periodic premature haemolysis, noting that "root-cause analysis after the event can be difficult," reinforcing the importance of maintaining stable, low-stress donor conditions to avoid unpredictable blood degradation.
7. Stress-induced splenic contraction in horses further alters the PCV and releases immature erythrocytes, making donor horse blood which is particularly sensitive to disturbance, and is extensively used for the blood containing agar plates within NHS, private and public health microbiology laboratories. Furthermore, sheep blood is widely used within the UK within the microorganism research and development industry. This report confirms that loss or impairment of donor horse blood capacity would represent "a catastrophic source level risk" because TCS supplies "60–70%" of the NHS's estimated annual demand for blood-containing plates, approximately 60 million units per year . Moreover, the loss of sheep blood would severely impact on UK scientists research and development.

Animal reaction to stress

8. Both sheep and horses exhibit strong species-specific physiological stress responses that increase biological variability in collected blood.



9. In sheep, acute stress triggers rapid cortisol elevation, neutrophilia (abnormally high number of white blood cells in the bloodstream), and splenic contraction, producing more fragile erythrocytes that are prone to oxidative haemolysis.
10. Horses show an even more pronounced response: intense sympathoadrenal (fight-or-flight response) activation and powerful splenic contraction sharply increase the haematocrit (PCV) and release immature red cells, while platelet activation and fibrinogen variability rise substantially.
11. These changes can reduce red blood cell robustness, increase haemolysis and affect the consistency of blood-containing microbiological media.

TCS and Preston Farms operational experience

12. TCS's operational evidence demonstrates that stress-related clotting and haemolysis adversely affects manufacturing consistency and continuity of supply. Their operational experience is consistent with these biological mechanisms and their records associate donor disturbance with increased clotting, increased wastage and premature haemolysis.
13. Even controlled activities such as sheep shearing have resulted in significant clot-related losses. This demonstrates that relatively short-lived physiological changes can translate into measurable production losses and reinforces the importance of maintaining calm, stable donor conditions.
14. The included veterinary surgeons appraisal (letter of 22 June 2026 from the Named Veterinary Surgeon included within REP4-104) confirms that "noise and vibration effects, if they startle the donor livestock, affect the donor livestock's blood," directly linking environmental disturbance to altered blood physiology and diagnostic reliability.

Impact on clinical diagnostics

15. Blood containing agar is fundamentally different from chemically defined culture media because its performance depends upon, intact donor erythrocytes for blood agar, and lysed erythrocytes for chocolate agar.
16. For blood agar these cells provide the substrate upon which bacterial haemolysins act, allowing characteristic α , β and γ haemolysis to be visualised. Consequently, the robustness, membrane integrity and consistency of donor red blood cells are fundamental quality attributes of the finished diagnostic blood agar product rather than incidental properties of the raw material.
17. Horse blood chocolate agar is produced by heating blood agar plates to 80 °C to deliberately lyse the red blood cells. This releases intracellular nutrients, like haemoglobin, amino acids and iron

directly into the agar. This is required as some fastidious pathogens are fragile and cannot utilise nutrients from intact red blood cells.

18. In horse blood chocolate agar (manufactured using Lysed Donor Horse Blood from PFL / TCS), stress altered erythrocytes and activated platelets cause inconsistent release of X (haemin) and V (NAD) factors, resulting in unreliable growth of fastidious organisms such as *Haemophilus spp* and *Neisseria spp*, both of which can cause bacterial meningitis.
19. Biomedical scientists undergo extensive training over four years to accurately interpret agar plates, assessing colonial morphology and haemolysis both visually and through automated systems. These observations form the foundation of subsequent diagnostic analyses, including organism identification and determination of the antibiogram. All such work is performed under strict standard operating procedures (SOPs) aligned with ISO 15189 requirements. Any alteration in the structure, consistency, or performance of agar plates can significantly compromise this critical “reading” process, leading to delayed or even missed identification of bacterial pathogens. For example, a Group A *Streptococcus* species—responsible for a myriad of infections including, strep throat, through necrotizing fasciitis, to sepsis—may fail to exhibit haemolysis on suboptimal blood agar. Without clear haemolytic zoning, it can be misinterpreted as normal flora and incorrectly regarded as a harmless commensal. Similarly, variability in blood agar can affect the reliability of the CAMP test, resulting in inconsistent enhancement for Group B *Streptococci* and *Listeria* species. Both organisms are clinically significant, particularly in pregnancy and neonatal infections, making accurate detection essential. These examples represent only a fraction of the diagnostic processes that depend on highly standardised, quality-controlled blood-containing agar. Biomedical scientists rely on these agar plates daily to screen for pathogens, and any deviation from established standards directly impacts diagnostic accuracy, patient safety, and laboratory efficiency.
20. The objective is not simply to avoid unusable blood. It is to minimise unnecessary biological variability. Physiological stress is well recognised to alter erythrocyte membrane stability and increase susceptibility to haemolysis. Collectively these changes have the potential to influence the consistency and diagnostic performance of blood-containing microbiological media. The absence of published studies demonstrating failed diagnosis from stressed donor blood should not be interpreted as evidence of no risk; rather, it reflects the highly specialised and niche nature of donor animal blood production. Where a diagnostic product depends directly upon both intact erythrocytes and controlled lysis, preserving their quality, robustness and consistency is an essential manufacturing objective.
21. UKHSA’s letter (9 June 2026 included within REP4-104) reinforces this diagnostic significance, confirming that donor blood products “represent an essential reagent for the identification and/or



culture of several critical human pathogens, including *Staphylococcus aureus*, *Streptococcus species* and *Bordetella pertussis*.” and emphasising the need for a “resilient and diverse supply chain with domestic production capability”.

22. The Royal College of Pathologists letter (of 15 June 2026 included within REP4-104) similarly recognises the importance of protecting donor animal blood supply and the serious consequences of impairing such facilities. Stress-altered blood also interferes with antimicrobial resistance (AMR) detection. AMR assays depend on standardised and predictable bacterial growth, consistent nutrient availability, and clear inhibition zones.

Application of the facts of the present case

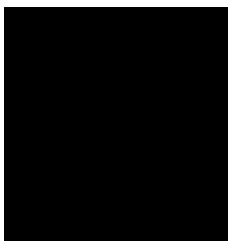
23. Disturbance of the donor animals would require increased veterinary assessment and could result in donor exclusion. TCS would also need to carefully monitor the quality of blood products to ensure they meet specifications. This could result in rejection of collected blood, delayed product release and disruption to a time-critical, perishable supply chain. Avoidable disturbance introduces physiological variability into the donor population, reduces manufacturing consistency and creates unnecessary risk within one of the UK's only donor animal blood production facilities.
24. Peer-reviewed literature demonstrates that donor biological state materially influences red-cell fragility, haemolysis and the behaviour of collected blood. Although the available studies are predominantly from human transfusion medicine, the underlying physiological mechanisms governing erythrocyte membrane stability, oxidative injury and haemolysis are conserved across mammalian species. Given the specialist and niche nature of donor animal blood collection, and the absence of extensive species-specific studies, it is scientifically appropriate to rely upon these well-established data while recognising normal species differences.
25. The evidence therefore supports a coherent biological pathway: environmental disturbance leads to physiological stress; stress alters erythrocyte biology; altered erythrocyte biology affects red-cell robustness and haemolysis; and blood containing agar relies upon robust, intact and consistent erythrocytes to deliver reproducible diagnostic performance. Together with TCS's operational observations, this provides a scientifically credible basis for concluding that avoiding donor stress is an essential component of manufacturing high-quality diagnostic media.
26. Research demonstrates that donor biology materially affects red-cell quality and haemolysis. TCS's operational evidence demonstrates that donor disturbance is associated with increased clotting, haemolysis and wastage. While no single study reproduces the exact circumstances of donor horse



and sheep blood production, scientific conclusions are routinely drawn by integrating evidence from related disciplines. Human transfusion literature establishes the underlying biological mechanisms, and TCS's operational observations demonstrate those mechanisms in practice. Collectively, this forms a robust and biologically plausible evidence base supporting the conclusion that avoidable donor stress presents a credible risk to the quality, consistency and diagnostic performance of blood-containing microbiological media.

27. Based on the evidence and my extensive clinical and diagnostic microbiology knowledge and experience, it is my professional opinion that the stress imposed on animals used in the production of blood for medical and laboratory use directly affects the quantity, quality, and shelf life of diagnostic and research products manufactured with horse and sheep blood. The performance of these products in subsequent diagnostic applications is intrinsically linked to the quality of the blood from which they are made. Without consistently high-quality blood and standardised manufacturing processes, the reliability and diagnostic capability of clinical and research microbiology laboratories are significantly compromised. Variability in blood quality leads to variability in culture media performance, which in turn affects pathogen detection, identification, and antimicrobial susceptibility testing. The UK has very limited blood-based media production capacity, and TCS supplies more than half of the essential blood-containing media used across the NHS. Any disruption or alteration to this supply chain would have a substantial negative impact on diagnostic services nationally. It is therefore essential that these factors are fully considered in any proposed alteration or change of use of the Preston Farm site, given its critical role in maintaining the stability and quality of the UK's diagnostic microbiology supply chain.

Yours sincerely



OBE MSc MBA FIBMS CSci





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Rosefield Solar DCO

Report on behalf of Preston Farms
Limited and TCS Biosciences
Limited

Railton TPC Ltd

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Railton TPC Ltd ref:	Rosefield B
Planning Inspectorate	Ref: National Infrastructure Project
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Figure 1: Access Routes

1 INTRODUCTION

- 1.1 Railton TPC Ltd has been commissioned by Preston Farms Limited and TCS Biosciences Limited (the client) to review the proposed construction access arrangements for Parcel 3 of the proposed Rosefield Solar Farm south-west of Winslow, Buckinghamshire.
- 1.2 The author is Director of Railton TPC Ltd who has worked for 35 years in the transport planning industry. He is a member of the Chartered Institution of Highways and Transportation (MCIHT). He has dealt with highways and transport matters for a wide range of development types from local to strategic scale. He has given evidence at informal hearings and public inquiries, participated in Local Plan Inquiries and examinations of Nationally Significant Infrastructure Projects (NSIPs).
- 1.3 The opinions expressed are the author's true and professional opinions. The author is fully aware that it is his duty to provide his honestly held professional views, irrespective of by whom he is employed.
- 1.4 The Rosefield Solar Farm is subject to a Development Consent Order (DCO) for an application for the construction and operation (including maintenance) of Rosefield Solar Farm that is, at the time of writing, at Examination.
- 1.5 The client is concerned that the currently proposed access arrangements during the construction and operational phase will lead to adverse impacts on the sensitive livestock and associated activities undertaken at the Preston Farms and TCS Biosciences site that is proposed to be crossed to gain access to the most northerly Parcel 3 of the proposed development to the south-east of East Claydon and east of Botolph Claydon. The location of the solar array areas, access routes and other key features are shown on the attached **Figure 1**.
- 1.6 The applicant's proposed construction routes are shown on Figure 2 of the Transport Assessment (TA) (ES Appendix 15.1 **[REP4-046]**). The TA includes an Abnormal Indivisible Load (AIL) Survey Report at Annex 3 that provides details of the assessments undertaken to identify the most appropriate means of delivering AILs to the site. The TA states that, '*All construction traffic [...] will approach the site from the A41*' (TA, para. 4.1.1). The TA does not contain any assessments of the proposed construction route for general construction traffic and does not provide any details of alternative routes that have been considered.
- 1.7 A Construction Access Review (June 2026 **[REP4-087]**) has recently been submitted by the applicant that seeks to justify the construction access routes previously

identified. This document explicitly considers an alternative route that has been suggested by TCS Biosciences Ltd (Route 8). There is no reason why the alternative construction route could not also be used for operational and decommissioning traffic. The Construction Access Review offers no evidence that the alternative route has been previously considered.

1.8 The following sections are included:

1. Introduction
2. Description of Proposed and Alternative Routes (Sensitivity)
3. Magnitude of Impact (Alternative Route)
4. Significance of Effects (Alternative Route)
5. Assessment of Alternative Route
6. Cumulative Impact
5. Summary and Conclusion

2 DESCRIPTION OF PROPOSED AND ALTERNATIVE CONSTRUCTION ROUTES (SENSITIVITY)

- 2.1 **Figure 1** shows the proposed construction route (red), the alternative construction route (orange) and the route proposed for abnormal indivisible load vehicles (AILs) (green).
- 2.2 The following paragraphs describe the proposed and alternative construction routes and identify their sensitivity to increases in HGV movements.

Proposed Construction Route

- 2.3 The proposed construction route is assumed by the applicant, for the purposes of assessment, to be from the M40 corridor via the A41 west of the site.
- 2.4 The A41 itself is identified as a recommended HGV route and is part of the Buckinghamshire Lorry Route Map¹.
- 2.5 The route on the A41 passes through Kingswood village. Kingswood village is identified by the applicant as having low sensitivity to changes in vehicle movements with the reason given being, '*Where a location is a small rural settlement, few community or public facilities or services*' (Table 15.9 of ES). Kingswood village straddles the A41 and will therefore generate pedestrian movements across the A41. The road is quite wide (around 8.0m and wider in the vicinity of junctions). No controlled pedestrian crossing facilities or pedestrian refuges are provided on the A41 through the village. Bus stops are located on both sides of the A41 requiring residents to cross on either the outbound or return journey. A bar/restaurant is located on the southern side of the A41 towards the western side of the village. The kerbed footway on the southern side of the A41 terminates just to the east of the restaurant so users are likely to either walk along the verge or cross the A41. A pub is located to the east of the village on the northern side of the A41. The footway on the northern side of the A41 that provides access to the pub is narrow (~1.2m) and is not separated from the carriageway with any verge.
- 2.6 On the basis of the above, it would be reasonable to classify Kingswood as having medium sensitivity to changes in flows of HGVs.
- 2.7 West of Waddesdon the route turns north along Station Road. Station Road is signed as a single track road with passing places. The road has been widened in places to accommodate HGVs associated with HS2. The road is classified as having medium

¹ See <https://www.buckinghamshire.gov.uk/parking-roads-and-transport/roadworks/view-roads-suitable-for-heavy-goods-vehicles-hgvs/>

sensitivity in Table 15.9 of the ES with the reason given as, '*Where the road is a local A or B class road, capable of regular use by HGV traffic. Includes roads where there is some traffic calming or traffic management measures*'.

- 2.8 The route turns left onto Snake Lane that crosses the HS2 route that then turns north. This is a narrow country lane that is of insufficient width to allow two HGVs to pass (4.7m in places). Much of the road is identified in the Works Plan as an area of highway works that will, presumably, provide widening and/or passing places that will allow HGVs to safely pass each other. Snake Lane is identified as having high sensitivity with the reason, '*Where the road is a minor rural road, not constructed to accommodate frequent use by HGV traffic*' (Table 15.9 of ES).
- 2.9 At its northern end, Snake Lane connects with Fidlers Field west of Quainton. It is noted that the right turn from Fidlers Field into Snake Lane has limited forward visibility due to a bend in the road and hedgerows close to the carriageway edge. The applicant has not identified any mitigation to overcome this safety deficiency.
- 2.10 Fidlers Field is a narrow country lane that is identified on the Works Plan as requiring highway works to accommodate construction traffic presumably due to its width reducing below the minimum necessary to allow two HGVs to pass (5.5m). Fidlers Field, like Snake Lane is classified as having high sensitivity to changes in traffic flows.
- 2.11 Fidlers Field connects with Claydon Road. The section of Claydon Road to the north of the Fidlers Field junction is also identified as requiring highway works, presumably because visibility to the north is restricted by the presence of roadside vegetation. Claydon Road has repeated signs warning of the presence of equestrians. The road provides access to the Hogshaw Wildlife Park (visitor attraction), a stud and 'Horse Magic' riding centre. The northern section of Claydon Road is identified as requiring highways works. Despite this, Claydon Road is classified as having medium sensitivity with the reason, '*Where the road is a local A or B class road, capable of regular use by HGV traffic*' (Table 5.19 of ES). Given the obvious presence of equestrians in the area, it would be reasonable to allocate the road as having high sensitivity to changes in traffic, particularly HGV movements since a road width of at least 6.5m is required to allow an HGV to safely pass an equestrian². The requirement for highways works provides a further justification for a classification of high sensitivity.

2 Paragraph 163 of the Highway Code states that horse riders should be given at least 2.0m clearance. An HGV has a width of 2.5m. A horse and rider has a width of around 1.0m. Both horse and HGV need to leave around a 0.5m clearance to the edge of the carriageway. The total road width required for an HGV to safely pass an equestrian is therefore 0.5m + 1.0m + 2.0m + 2.5m + 0.5m = 6.5m

- 2.12 The main access into Parcels 1 and 2 is from the section of Claydon Road subject to highways works.
- 2.13 At its northern end, Claydon Road connects with Granborough Road that is proposed to provide access to Parcel 3. Vehicles travelling north on Claydon Road seeking to turn right into Granborough Road have very poor visibility along Claydon Road to the west since the road bends sharply to the left and roadside vegetation obscures a driver's ability to see vehicles approaching from the west. It is noted that some vehicles are travelling at some speed from the west, particularly those that are continuing straight ahead (effectively taking the left turn off Claydon Road) to continue towards Granborough. No mitigation is proposed to overcome the lack of visibility at this junction.
- 2.14 Users of Granborough Road are classified as having high sensitivity due to the road's low standard. The road is therefore identified as requiring highways works. These works are unlikely to be required if the alternative access from the north of Parcel 3 were to be used. If access were taken from the north of Parcel 3, the number of construction vehicles making the hazardous right turn from Claydon Road into Granborough Road would be greatly reduced (only cable route vehicles).
- 2.15 From Granborough Road it is proposed to construct an access road across the Preston Farms/TCS Biosciences site. It is understood that the site has high sensitivity to the presence of HGVs. The applicant has not included this sensitive site in the assessment of transport environmental impact set out in Chapter 15 of the ES [APP-058].
- 2.16 The route proposed for Abnormal Indivisible Loads (AILs) is from the M1, west along the A421 to join the route identified as the alternative to Parcel 3 as described below.

Alternative Access Route

- 2.17 The alternative access route is also based on an assumption that access would be via the M40 corridor but would utilise the A43 and A421 instead of the A41. Although the alternative route passes through the southern fringe of Buckingham, the proposed route passes through the southern fringe of Bicester.
- 2.18 The alternative route provides an opportunity to gain more direct access from the M1 corridor since the AIL route is already proposed to be via the M1.

- 2.19 The A421 itself is identified as a recommended HGV route and is part of the Buckinghamshire Lorry Route Map. The applicant classifies the A421 as having low sensitivity.
- 2.20 South of Buckingham the alternative route joins the A413 (incorrectly labelled as the A431 in the Construction Access Review) and travels to the south-east. The section of the A413 south of the A421 is classified as having high sensitivity with the reason given; *'Where a location is a large rural settlement containing a high number of community and public services and facilities'*. The road in this area is a wide single carriageway with either wide footways or shared footway/cycleways on both sides. Footways are separated from the carriageway in places by grass verges. Signalised pedestrian crossings are provided between junctions. There is no residential frontage development. No schools or other land uses that are associated with vulnerable highway users are located in this area. On this basis, it is reasonable to assume that this section of the A413 has low sensitivity to changes in traffic flows rather than high sensitivity as suggested in Table 3.3 of the Construction Access Review.
- 2.21 The A413 passes through the village of Padbury. The applicant classifies Padbury as having medium sensitivity. The village is subject to a 30mph speed limit, footways/cycleways are separated from the carriageway in some places and an uncontrolled cycle crossing is provided close to the pub at the north of the village. A signalised pedestrian crossing is provided in the centre of the village. Although the A413 is identified as a recommended HGV route, the presence of a primary school adjacent to the road suggests that the sensitivity could be considered to be medium/high.
- 2.22 The A413 continues south-east to Winslow. Just to the north of Winslow, a secondary school is located set back from the south-western side of the A413. A signalised pedestrian crossing is provided just to the east of the school. In the north of Winslow footways are provided on both sides of the road and separated from the carriageway by verges in places. Properties are generally set back from the road with front gardens or parking bays. A zebra crossing is provided just to the north of the village centre. In the centre, properties are located at the back of footways. Footways are provided on both sides of the road and a pedestrian refuge is provided just to the north of a care home. A further zebra crossing is provided in the village centre and a signalised pedestrian crossing is provided just to the north of the

Vicarage Road junction. Winslow is classified by the applicant as having high sensitivity to changes in traffic flow. This is a reasonable classification given the presence of a range of community facilities and sensitive receptors.

2.23 The alternative route turns west onto Vicarage Road. Vicarage Road passes through a residential area. The road is relatively wide (>6.0m) and has pedestrian refuge crossings in places. Footways are provided on both sides of the road and the footway on the northern side is set back behind a wide grass verge. On-street parking is limited to a section on the southern side in the vicinity of the A413 junction. The applicant does not identify a sensitivity for this section of the route. On the basis of the above, it would be reasonable to assume medium sensitivity to changes in traffic flows.

2.24 The alternative route turns south onto Burleys Road. Footways are provided on both sides of the northern section of Burleys Road. The footway on the western side continues along the entire length of the section proposed to be used. Residential properties are set back from the edge of the carriageway and those on the western side of the road are set back further behind front gardens. The footway on the western side is also set back behind a verge. The road has sufficient width to accommodate two-way HGV movements although there is a section of on-street parking on the eastern side of the road close to the Vicarage Road junction. It appears that the properties associated with this on-street parking are provided with a parking area to the rear of the properties. Parking bays are also provided on the opposite side of the road. Drivers approaching the southern end of Burleys Road are provided with signs that indicate that the route towards the A413 and Buckingham is via Burleys Road and a further sign that indicates that Horn Street, the continuation of Granborough Road is unsuitable for HGVs. The expectation is therefore that HGVs should use Burleys Road. On the basis of the above it is considered reasonable to classify Burleys Road as having medium sensitivity to changes in traffic flows.

2.25 The alternative route continues south on Granborough Road as it leaves the built-up area of Winslow. At its northern end, Granborough Road is provided with footways on both sides of the road. The footway on the eastern side is separated from the carriageway by a grass verge. The footway on the western side terminates further south. All residential properties are set well back from the carriageway behind verges and/or front gardens. A section of on-street parking is present just to the

south of the point at which the footway on the western side terminates. The applicant classifies Granborough Road as having high sensitivity in terms of both *Winslow Users* and *Winslow Residents*. On the basis of the above, this section of Granborough Road is considered to have low/medium sensitivity to changes in traffic flows rather than high sensitivity as set out in Table 3.3 of the Construction Access Review.

- 2.26 The section of Granborough Road south of the built-up area of Winslow and East Claydon Road are country lanes of sufficient width to accommodate two-way HGV movements (width around 5.7m). Verges are provided on both sides of the roads and forward visibility is generally good. Highway works would not be required to widen the carriageway. There are no signs warning of the presence of equestrians and there are no equestrian facilities evident in the vicinity. The applicant classifies users of Claydon Road as having high sensitivity. On the basis of the above, a classification of low/medium sensitivity for this section of road would be reasonable.

Summary of Assessment of Sensitivity of Proposed and Alternative Routes

- 2.27 The following table summarises the sensitivity of sections of the proposed and alternative routes as assumed by the applicant and as assessed above:

Table 1: Route Sensitivity Summary

	Route Section	Sensitivity		Notes
		Applicant	Revised	
PROPOSED ROUTE	A41 Bicester	Low	Low	
	A41 (Kingswood)	Low	Medium	Community facilities, poor footway provision and lack of safe crossing points
	Station Road	Medium	Medium	
	Snake Lane	High	High	
	Fidlers Field	High	High	Poor forward visibility for vehicles turning right from Fidlers Field into Snake Lane.
	Claydon Road	Medium	High	Presence of equestrians and Hogshaw Wildlife Park.
	Granborough Road (section east of Claydon Road)	High	High	Poor forward visibility for drivers turning right into

				Granborough Road from Claydon Road.
	Preston Farm/TCS Bioscience	Not assessed	High	
ALTERNATIVE ROUTE	A421	Low	Low	
	A413	High	Low	High standard of road, high provision of pedestrians
	A413 (Padbury)	Medium	Medium/High	Presence of primary school adjacent to A413
	A413 (Winslow)	High	High	
	Vicarage Road	High	Medium	Pedestrian crossings, properties set back, lack of sensitive facilities
	Burleys Road	High	Medium	Properties set back, footway set back behind verge
	Granborough Road (within Winslow)	High	Low/Medium	Properties set back, footway set back behind verge
	Granborough Road/East Claydon Road (between built-up area of Winslow and Parcel 3 access point)	High	Low/Medium	No widening required, no equestrian warning signs

2.28 It is concluded that the applicant has under-estimated the sensitivity of parts of the proposed route including the A41 through Kingswood and Claydon Road. The applicant has also over-looked highways safety concerns at the Snake Lane/Fidlers Field and Claydon Road/Granborough Road junctions.

2.29 The following section assesses the magnitude of impact of construction HGVs on the alternative route to allow an assessment of the significance of possible transport environmental effects.

3 MAGNITUDE OF IMPACT (ALTERNATIVE ROUTE)

Percentage Impact

- 3.1 Annex 2 of the TA identifies the maximum daily number of HGV movements associated with the various parts of the proposed development. These are summarised in the following table:

Table 2: Daily Construction HGV Trip Generation (2-way)

Parcel	Minimum	Maximum
1 and 2	13	111
3	13	31
Total	26	141

Source: Annex 2 of TA

- 3.2 The maximum number of HGV movements associated with Parcel 3 is shown to be 31 per day. This would constitute 3 HGV movements per hour over a 10 hour working day³.
- 3.3 Table 3.2 of the Construction Access Review identifies the daily percentage increase in HGV movements that results from the above peak level of HGV trip generation. These are summarised in the following table:

Table 3: % Impact of Parcel 3 Peak HGV Daily Trip Generation

Link	Existing Daily HGV Movements	Peak Construction HGV Movements	% Increase
A421 Buckingham	1,570	31	2.0%
A413 (Buckingham)	421	31	7.4%
A413 (Padbury to Winslow)	405	31	7.7%
A413 (Winslow High Street)	305	31	10.2%
Granborough Road	153	31	20.3%
East Claydon Road	61	31	50.8%

Source: Tables 2.2, 3.1 and 3.2 of Construction Access Review

- 3.4 The Institute of Environmental Management and Assessment (IEMA), now the Institute of Sustainability and Environmental Professionals (ISEP), Guidelines: Environmental Assessment of Traffic and Movement (IEMA, July 2023) referenced at para. 15.6.14 of the ES quotes Rule 2 from the Guidelines that states, '*Include any other specifically sensitive areas where total traffic flows are predicted to increase by 10% or more*'.

3 Hours of operation set out in para. 3.2.1 of Construction Traffic Management Plan (CTMP)

This defines the lower level of impact, below which it is not required to undertake detailed transport environmental impact assessment. It is generally accepted that a change in traffic flow of 10% or less falls within typical day-to-day variations.

- 3.5 On this basis, the impact of the proposed alternative route is not significant on any sections of the A413 apart from Winslow High Street where the impact is shown to be slightly above the 10% threshold.

Interpretation of Magnitude of Impact

- 3.6 There is no single way to convert percentage changes in traffic levels to magnitude of impact. The interpretation differs depending on the type of transport environmental impact that is being considered. In terms of severance, changes in traffic flows of 30%, 60% and 90% are often considered *slight*, *moderate* and *substantial*⁴. In terms of non-motorised user amenity, guidance suggests that the thresholds defined by a halving or doubling of HGV movements may be appropriate.
- 3.7 As a worst case proxy for a range of transport environmental impacts it has been assumed that increases of under 10% constitute a negligible magnitude of change, those between 10% and 30% constitute a minor magnitude of change, those between 30% and 60% constitute a moderate magnitude of change and those above 60% constitute a major magnitude of change.

4 See para. 3.16 of ISEP Guidelines

4 SIGNIFICANCE OF EFFECTS (ALTERNATIVE ROUTE)

4.1 The significance of effects is derived by cross-tabulating the sensitivity of receptors with the magnitude of impact. The relevant cross-tabulation is set out in Table 15.11 of the ES and is reproduced below:

Table 4: Significance of Effect Matrix

Sensitivity of Receptor	Magnitude of Impact			
	Major	Moderate	Minor	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Negligible	Minor	Negligible	Negligible	Negligible

4.2 The application of the above matrix to the levels of sensitivity and magnitude identified above leads to the following significance of effects:

Table 5: Significance of Effects (Alternative Route)

Link	Sensitivity	Magnitude	Significance
A421	Low	Negligible	Negligible
A413	Low	Negligible	Negligible
A413 (Padbury)	Medium/High	Negligible	Minor adverse
A413 (Winslow)	High	Minor	Moderate adverse
Vicarage Road	Medium	Minor	Minor
Burleys Road	Medium	Minor	Minor
Granborough Road (within Winslow)	Low/Medium	Minor	Negligible/Minor adverse
Granborough Road/East Claydon Road	Low/Medium	Moderate	Minor/Moderate adverse

4.3 A significance of moderate adverse would generally indicate that further assessment work and potential mitigation should be considered. The following section considers the areas of potential adverse effects in further detail.

5 ASSESSMENT OF ALTERNATIVE ROUTE

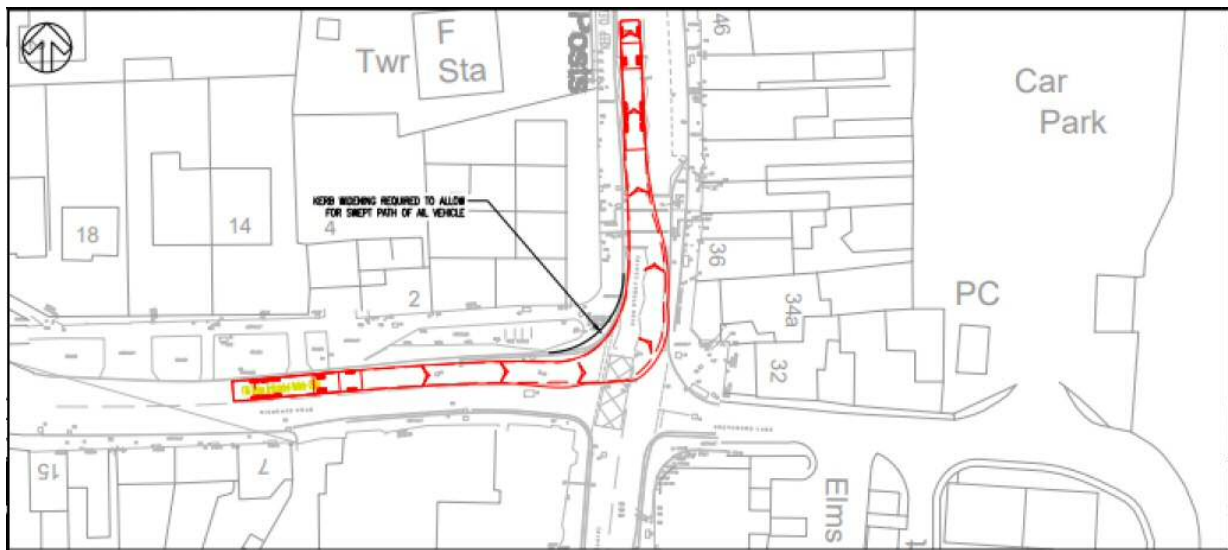
Construction Access Review Conclusions

- 5.1 The Construction Access Review concludes that the alternative route would not lead to any significant adverse transport environmental effects (see Table 3.4 of Construction Access Review). This conclusion takes account of the range of mitigation measures such as temporarily lowered speed limits, potential parking restrictions, signage etc. that would be expected to be implemented as part of the Construction Traffic Management Plan.
- 5.2 The assessment set out in **Sections 2-4** above does not allow for such mitigation measures. The implications are discussed below.

A413 Through Winslow

- 5.3 The assessment of magnitude of impact reveals that the peak level of HGV trip generation would lead to an increase in HGV movements slightly above the 10% threshold that is generally considered to encompass typical day-to-day variations in traffic flows. It would be difficult to perceive a 10.2% increase in HGV movements on the A413 through Winslow.
- 5.4 It is only during 2 months of the construction period that the peak level of HGV movement (31 per day) is predicted to occur. For the remainder of the construction period the level of impact would be significantly less than 10%. The adverse impact would therefore be temporary.
- 5.5 Concern has been raised regarding the potential adverse highway safety impacts of HGVs turning between the High Street and Vicarage Road. Section 3.4 of the Construction Access Review refers to a modification of the A413/Vicarage Road junction to facilitate the left turn movement from Vicarage Road onto the A413. This has been proposed as part of the Statkraft proposals (see below). The works are shown on the following plan

Plan 1: Proposed Modification of Vicarage Road/A413 Junction



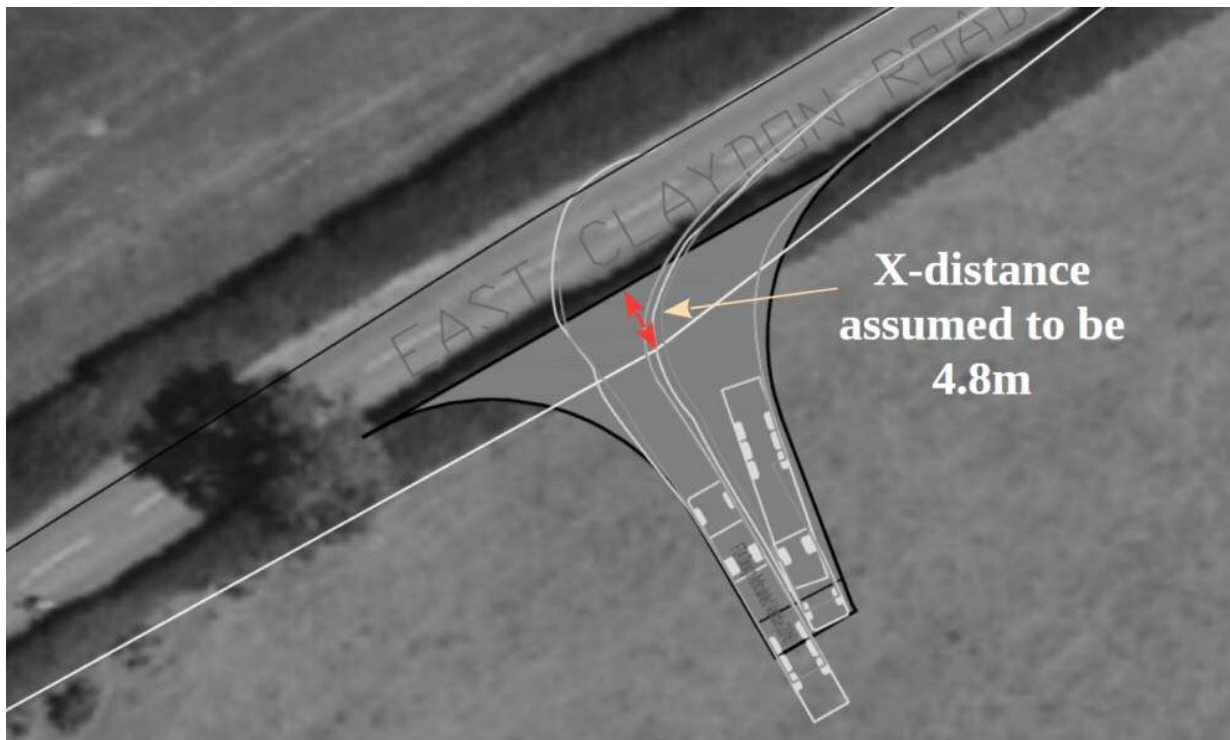
source: WSP Drawing 0029773-WSP-ZZ-ZZ-SK-TP-0004 rev. P02 (Figure 4 of Construction Access Review)

- 5.6 The alteration to the kerb would not affect the footway that runs along the northern side of Vicarage Road and the western side of the A413 as this is set back behind a verge. The alteration would, however, slightly lengthen the crossing distance for pedestrians walking along the western side of the A413. Observations on site suggest that the existing kerb where the improvement is proposed is currently regularly over-run by larger vehicles. The proposed change therefore offers an improvement to pedestrian safety as the new kerb would formalise existing vehicle movements and ensure that pedestrians who are waiting to cross are not standing on a section of footway that could be over-run.
- 5.7 The Construction Access Review raises concerns over the need for HGVs turning into and out of Vicarage Road to sweep across both lanes of the A413 north of the junction. This movement is indicated on the plan above. The High Street is a low speed environment with regular gaps between vehicles caused by vehicles manoeuvring into and out of parking spaces and turning into and out of accesses. A signalised pedestrian crossing is located to the north of the junction. The crossing would provide opportunities for HGVs to turn out of Vicarage Road. The above swept path shows that a large HGV would have returned to the northbound lane of the A413 in advance of the point where southbound vehicles would stop at the crossing and would not, therefore, force any vehicles to reverse. Drivers approaching the point where HGVs would be turning into and out of Vicarage Road have good forward visibility and HGVs making the turn would do so at very low speed. It is not considered that the use of the junction by construction HGVs over a limited period would constitute a significant highway safety risk.

Junction on East Claydon Road

- 5.8 The Construction Access Review suggests that the new junction on East Claydon Road would lead to the removal of up to two trees and 140m of hedgerow. A plan in Appendix A of the Construction Access Review shows the proposed junction. The visibility splay would normally be measured from a point 2.4m back from the edge of the carriageway (x-distance). It appears that the proposed junction is based on a visibility splay measured from a point 4.8m back from the edge of the carriageway. The applicant does not provide dimensions on the plan but the x-distance is clearly around twice the width of an HGV and an HGV has a width of 2.5m:

Plan 2: Proposed Junction on East Claydon Road



source: Appendix 1 of Construction Access Review

- 5.9 The impact of the junction in terms of roadside vegetation has therefore been greatly exaggerated. Observations on site suggest that the access would not require the removal of any trees since the nearest tree is set back over 2.0m from the edge of the carriageway. The hedgerow is also set back from the edge of the carriageway with most stems around 1.5m from the edge of the carriageway⁵. A wider verge is present to the south-west of the tree so any impact on hedgerows would extend a maximum of 12m to

⁵ The hedge is wide and only the section closest to the road in the vicinity of the junction would need to be removed, thus retaining the vast majority of the hedge even when some trimming back is required.

the south west of the tree. The road to the north-east bends to the north, reducing the potential amount of hedgerow that would need to be removed.

- 5.10 A junction on East Claydon Road is already proposed to accommodate the delivery of abnormal indivisible loads (AILs). The plan of the AIL access in Appendix C of the TA (Pell Frischmann Drawing No. SK22) suggests that at least 25m of hedgerow would need to be removed to accommodate the AIL vehicle. The net increase in the amount of hedgerow required to be removed to achieve visibility splays for other vehicles is likely to be minimal.

Impact on East Claydon Road

- 5.11 A minor/moderate adverse significance of impact is identified for East Claydon Road. East Claydon Road is of sufficient width to accommodate two-way HGV movements and there is no clear evidence of vulnerable highway users that might be adversely affected by construction traffic. With the implementation of the CTMP, it is reasonable to conclude that there would be no significant adverse transport environmental effects on East Claydon Road, a conclusion that is also drawn in the Construction Access Review.

6 CUMULATIVE IMPACT

6.1 The alternative access route has been approved for a number of other local developments. These include the following:

Table 6: Cumulative Projects

Scheme	Ref.	Max. Daily HGV Movements	Timescale
Rookery Farm BESS (Statera)	23/03875/APP/ Appeal Ref. 3360815	48	18 months construction
East Claydon Greener Grid Park (Statkraft)	25/01297/APP	97 (weeks 1-5)	24 months construction
Tuckey	19/00983/APP	10	4 months construction
National Grid East Claydon Substation expansion	Information not available		
Rosefield Parcel 3		31	30 months construction

Note: see also Figure 1

- 6.2 The identification of the alternative route as suitable for other construction projects indicates that it is deemed acceptable for finite periods with appropriate measures delivered through the implementation of CTMPs.
- 6.3 The Officer Report for the Statkraft development⁶ states, *'The Highway Authority has confirmed that the surrounding highway network including East Claydon Road and the wider construction route is capable of accommodating the forecast construction traffic and larger vehicles associated with the development'* (para. 5.23). The report goes on to state, *'The submitted Transport Assessment and Environmental Statement include traffic surveys and cumulative assessments, including interaction with other consented developments such as the nearby substation works'* (para. 5.25).
- 6.4 The use of the alternative route to access Parcel 3 would lead to some cumulative impact; either a higher daily number of HGVs for a given period or a longer period over which construction HGVs would use the route. Each scheme would implement a CTMP and it would be possible to coordinate CTMPs to maximise the level of mitigation provided and minimise residual impacts.

⁶ Report to Buckinghamshire Council – Strategic Sites Planning Committee (02/07/2026)

7 CONSTRUCTION ACCESS REVIEW COMPARISON OF PROPOSED AND ALTERNATIVE ACCESS ROUTES

7.1 Section 4 of the Construction Access Review sets out a comparison of the proposed and alternative access routes. Each of the criteria used to compare the two routes is considered below:

- **Length (from Bicester):** The choice of Bicester as the comparison point is not reasonable. It would only be relevant if vehicles were approaching from the A40 south. Vehicles approaching from the A40 north would travel over 10 miles less to access Parcel 3 via the alternative route than via the proposed route. The alternative route also provides a shorter journey distance from the M1 north;
- **Settlements affected (from Bicester):** The table includes Buckingham for the alternative route but omits Bicester for the proposed route. As described above, the Parcel 3 construction traffic would lead to a negligible change in HGV traffic through Padbury;
- **Distance travelled on non-A Roads:** The table correctly identifies the significantly shorter distance on non-A roads for the alternative route;
- **Number of Sensitive Receptors Passed (from Bicester) including schools, places of worship, retail areas etc.:** The *number* of sensitive receptors passed is not the relevant criterion for comparison; it is the *significance* of effects as they impact on sensitive receptors that is the relevant assessment criterion. As has been described above, an assessment of the transport environmental impact of the traffic associated with Parcel 3 does not lead to any significant adverse transport environmental effects;
- **Distance travelled between Parcels 1 and 2 to Parcel 3 for construction and operational phase traffic:** The vast majority of HGV movements will be limited to a single destination (delivery of aggregate, delivery of solar panels etc). The amount of movement between Parcels 1/2 and Parcel 3 will therefore be very limited. It is common practice for solar sites to adopt more than one construction route since they typically cover large areas separated by low standard rural highway links. Examples would be Lime Down that proposes to use routes from Junctions 17 and 18 of the M4, Green Hill that is proposed to use routes via the A43, A509, A45 and A428, Cottam that utilises a number of links from the A15 and West Burton that takes access from routes utilising the A1500 and A57. The table omits to point out that the use of more than one access route leads to the dispersion of traffic so that there would be an accompanying reduction in HGV movements on the proposed route.

The small numbers of light vehicles that travel between Parcels ½ and Parcel 3 are able to use the local highway network without leading to adverse impacts;

- **Loss of vegetation:** As has been explained above the applicant has exaggerated the net increase in the amount of vegetation loss along East Claydon Road;
- **Removal of abortive works:** The cabling track would need to be removed whether or not the alternative access were adopted. The additional works to form, and then remove, a temporary access for the cable corridor are likely to be minimal;
- **Need for off-site works:** The additional works appear to be limited to possible parking suspensions on Granborough Road. The alterations to the kerb alignment at the A413/Vicarage Road junction are proposed to be undertaken by others and are, in any case, minor. If the main access into Parcel 3 were not taken from Granborough Road, the proposed series of passing places along Granborough Road would not be required (net benefit);
- **Need for mitigation measures:** It is normal practice to identify mitigation measures in the CTMP. The measures are not excessive or expensive;
- **Ability to control in one CDM area:** As explained above, it is quite normal practice for solar sites to operate with two or more construction access routes;
- **Direct business impacts:** Table 4.1 of the Construction Access Review suggests that the use of the alternative route that *reduces* impact on TCS Biosciences leads to an *increased* negative impact. This conclusion is clearly neither logical nor credible. There is no evidence that any parking management in Winslow required to facilitate HGV movement would adversely affect businesses since the majority of the parking is within residential areas where alternative parking areas are likely to be available. Any temporary parking restrictions implemented as part of the CTMP would be designed to minimise adverse impacts on local residents and businesses. The intermittent passage of HGVs on the sections of Granborough Road and East Claydon Road outside of Winslow would not lead to any material adverse impacts on agricultural uses. In any case, the alternative route incorporates a much shorter distance on non-A roads than the proposed route and the vehicle movements that use the alternative would therefore have less impact on agricultural uses on those lanes;
- **Cumulative issues with other projects/consents:** The use of the alternative route would lead to some cumulative impact although this would be off-set to some degree by a reduction in HGVs using the proposed route. The alternative route is deemed

acceptable for other construction projects and adverse impacts can be managed through the implementation and coordination of CTMPs.

7.2 The discussion of the routes above also identifies adverse highway safety impacts at the Snake Lane/Fidlers Field and Claydon Road/Granborough Road junctions. The former would be reduced if the level of use of the proposed route were reduced and the latter would be greatly reduced as only cable route vehicles would be undertaking the right turn with poor visibility.

7.3 On the basis of these assessments, the following amended access comparison is made. Red indicates where the alternative route leads to a negative impact compared with the proposed route. Orange indicates where the impact is neutral and green indicates where the alternative route offers positive benefits. The first coloured column summarises the conclusions of the Construction Access Review and the second column presents the conclusions drawn from the amended assessments:

Table 7: Amended Access Comparison Summary

Criteria	Proposed	Alternative	Positive/Neutral/ Negative		Notes
			Construction Access Review	Amended	
Length	Shorter if M40 or M1 south	Shorter if M40 or M1 north			
Settlements affected	Kingswood	Padbury and Winslow			
Distance from non-A roads	5.2 miles	1.9 miles			
Residual adverse transport environmental effects	Not with implementation of CTMP	Not with implementation of CTMP	Not included		It is important that the conclusions of the transport environmental assessment are included in the comparison (no significant effects)
Distance between Parcels 1/2 and 3 for HGVs	Solar farms typically use two or more construction routes				Few HGVs travelling between parcels, light vehicles able to use local highway network
CDM control					
Loss of vegetation	AIL access and Granborough Road junction and passing	AIL/Parcel 3 access, Granborough Rd access			Minimal additional loss of vegetation on East Claydon Road and reduced need

	places				for widening of Granborough Road
Sub-standard visibility at Snake Lane/Fidlers Field junction	All inbound traffic subject to safety deficiency	Only Parcels 1 and 2 traffic subject to deficiency	Not included		See text above for details
Sub-standard visibility at Claydon Road/Granborough Road junction	All inbound Parcel 3 traffic subject to safety deficiency	Only cable route traffic subject to deficiency	Not included		See text above for details
Removal of abortive works	No abortive works	Granborough Road cable route access			
Need for off-site works	Passing places on Granborough Road	Less works required for Granborough Road			High Street/Vicarage Road works delivered by others, other measures part of CTMP
Need for mitigation measures	CTMP	CTMP			
Direct business impacts	Impact on TCS Biosciences	Minimal impact on TCS Biosciences			Impacts in Winslow mitigated with CTMP, reduced impacts along proposed route
Cumulative impacts	With other schemes accessed via A41	With other schemes accessed via Winslow			Cumulative impact can be mitigated through coordination and implementation of CTMPs

7.4 It can be seen that the alternative route has a greater number of benefits over the applicant's proposed route than disbenefits. It is also clear than on closer scrutiny, some of the disbenefits identified by the applicant are neutral or positive. A number of relevant considerations that were omitted from the table in the Construction Access Review show the alternative route to be either neutral or beneficial compared with the proposed route.

7.5 Overall, it is concluded that the applicant has not demonstrated that the proposed route is necessary or materially preferable to the alternative route.

8 SUMMARY AND CONCLUSION

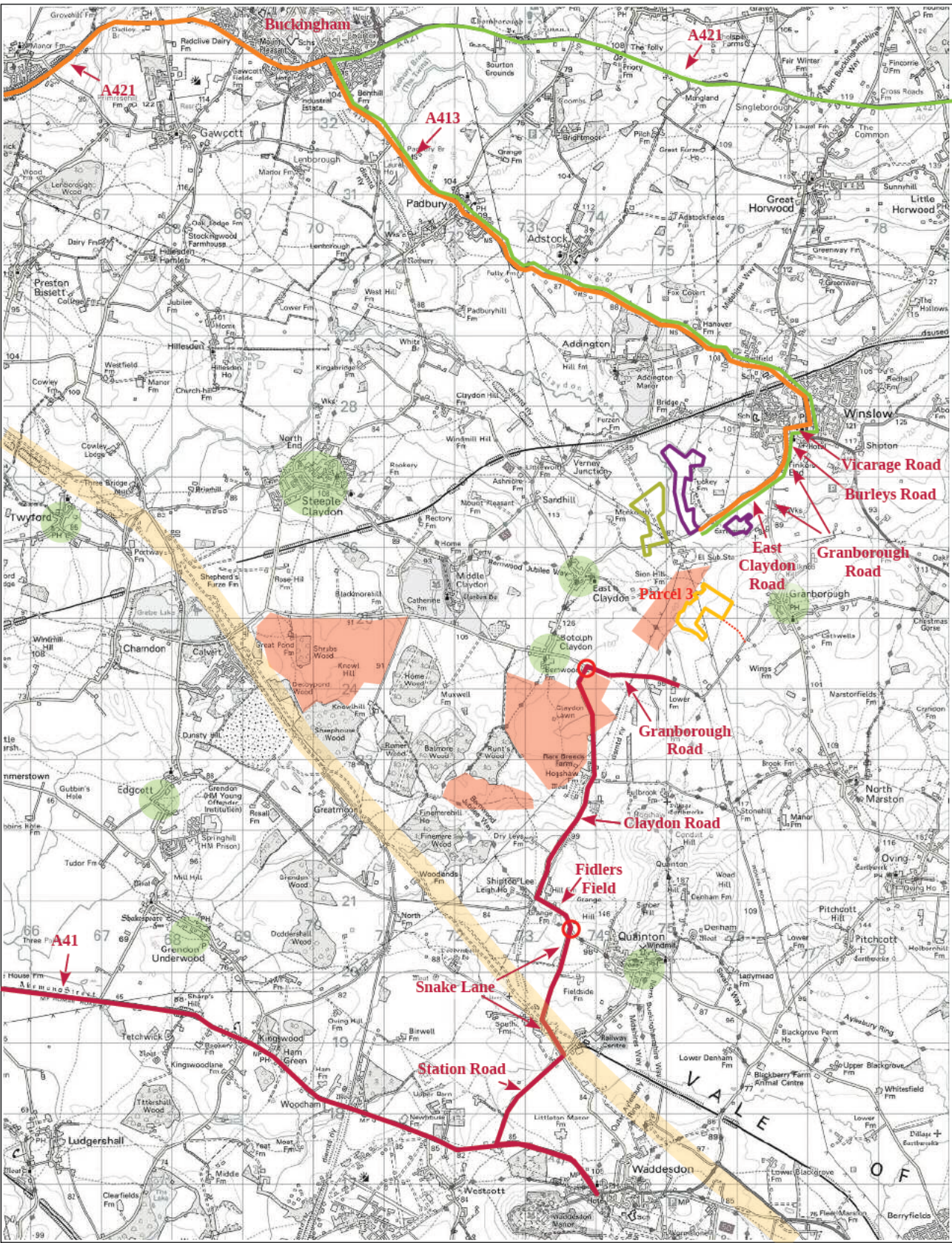
- 8.1 This report assesses an alternative construction route for Parcel 3 of the Rosefield Solar Farm that avoids the Preston Farms/TCS Biosciences site that has high sensitivity to construction vehicles.
- 8.2 The original environmental impact assessment work undertaken by the applicant did not consider the potential impact of construction traffic on the Preston Farms/TCS Biosciences site. An alternative route has subsequently been identified that seeks to access Parcel 3 from the north via the A413. The applicant's assessment is set out in the Construction Access Review [REP4-087].
- 8.3 In addition to omitting to consider the impact on the Preston Farms/TCS Biosciences site, it appears that the applicant has also under-estimated the sensitivity of Kingswood and Claydon Road and has overlooked highway safety concerns along the proposed route.
- 8.4 A review of the alternative route indicates that the applicant has over-estimated its sensitivity to increases in HGV movements.
- 8.5 The route via the A413 is the preferred route for a number of other construction projects in the area. The route has been deemed acceptable with appropriate mitigation delivered through the implementation of Construction Traffic Management Plans (CTMPs).
- 8.6 The magnitude of impact of construction HGVs would be negligible along most of the alternative route. On the A413 within Winslow the magnitude of impact would be just above the minimum assessment threshold of a 10% increase in daily flows (10.2%). For the vast majority of the construction period the magnitude of impact would be negligible (below 10%).
- 8.7 Concerns over the highway safety implications of HGVs turning out of Vicarage Road onto the A413 are over-stated. The proposed minor kerb re-alignment that could be delivered by the applicant or others would improve safety for pedestrians since the existing kerb and footway appears to be already over-run on occasions. The low speed environment within the village centre, frequent breaks in traffic flows and excellent visibility would allow HGVs to undertake the manoeuvre without leading to any significant highway risks.
- 8.8 The route along Vicarage Road, Burleys Road, Granborough Road and East Claydon Road would not require any widening although some management of parking areas may be required. Most dwellings are set back from the carriageway, footways are

provided and separated from the carriageway in many areas. Impacts in this area can be mitigated through the implementation of the CTMP.

- 8.9 The applicant has greatly exaggerated the need for vegetation removal along East Claydon Road. An access is required for AIL deliveries in any case and the net increase in vegetation removal to achieve an access for other construction vehicles is likely to be minimal. No trees would be lost.
- 8.10 The Construction Access Review presents a selective and biased comparison of the proposed and alternative routes. The amended assessment described above demonstrates that there is no compelling argument for the use of the single access route.
- 8.11 Overall, it is concluded that the applicant has not demonstrated that the proposed route is necessary or materially preferable to the alternative route.

Figure 1: Access Routes

Figure 1: Access Routes



Key

- Proposed access route
- Alternative access route
- AIL access route

- Rosefield solar areas
- Tuckey Farm Solar
- Statera BESS
- Statkraft BESS

- Poor visibility at junction
- village (avoided by construction route)