From:	Stephen Fox
To:	Allen, Deborah; One Earth Solar
Subject:	RE: One Earth Solar Farm (EN010159) – Request for Robust Consideration of Alternative Site Constellations, In Light of New Technical and Financial Evidence
Date:	05 October 2025 12:42:44
Attachments:	Failure to address alternative sirtes introductory letter 05.10.25.docx Evaluation of the One Earth Solar Farm Proposal Planning, Sustainability, Site Alternatives, Grid, Flood, and Financial Integration.docx

From

Stephen Fox BA MSc.

Resident of North Clifton.

Interested party reference number FA3 AE8AE5

TO:

The Examining Authority

One Earth Solar Farm NSIP Project

c/o The Planning Inspectorate

Temple Quay House, Temple Quay

Bristol BS1 6PN

By Email.

05.10.25

RE: One Earth Solar Farm (EN010159) – Request for Robust Consideration of Alternative Site Constellations, In Light of New Technical and Financial Evidence

1. Introduction and Purpose of Submission

This letter is submitted to the Examining Authority ("ExA") in respect of the examination of the One Earth Solar Farm project (Development Consent Order application EN010159), and is founded upon a rigorous review of the consolidated report 'Evaluation of the One Earth Solar Farm Proposal: Planning, Sustainability, Site Alternatives, Grid, Flood, and Financial Integration' (which is attached for submission at deadline 4 and for your consideration), supplemented and cross-referenced with the technical paper 'Forensic Critique of the One Earth Solar Farm Site Selection Rationale: A Case of Speculative Siting'. This submission responds to claims and evidence provided by the Applicant in the recently published Sequential Test Assessment Addendum (EN010159/APP/9.26), as well as the examination library, and is presented with full regard for the requirements of the Nationally Significant Infrastructure Project (NSIP) regime.

Key Purpose:

To draw the ExA's attention to robust, independently modelled and costed evidence that demonstrates the existence of viable, superior alternatives to the Applicant's currently proposed floodplain site and to challenge the veracity and sufficiency of the Applicant's stated reasons for rejecting these alternatives, particularly the parcels AP11, AP12, CL1–CL4, LAX1–LAX3, and NWT1–NWT3.

2. Significant Concerns with Applicant's Rejection of Alternatives

2.1. Evidence of Rejected Alternatives Without Proper Justification

It is undisputed that the Applicant, during their scoping and site selection process, identified multiple alternative land parcels—including but not limited to AP11, AP12, CL1–CL4, LAX1–LAX3, and NWT1–NWT3—within the initial study area as documented in their Preliminary Environmental Information (PEIR) and subsequent technical documents. These parcels comprise a "constellation" of sites which are not only free of the critical floodplain constraints present in the preferred site, but, as our desk-based and scenario-modelled evaluation confirms, they are also collectively capable of accommodating both the generation and balancing BESS and

associated infrastructure at the scale required.

However, the applicant has summarily rejected these sites, frequently citing considerations such as grid connection distances, operational fragmentation, or speculative unavailability, but has not substantiated these rejections with transparent technical, environmental or financial analysis. Specifically, the Addendum (EN010159/APP/9.26, Section 4.2.4–4.2.8) claims certain parcels "were not available" or "incapable of accommodating capacity" but fails to provide supporting evidence for how availability was tested, how capacity was assessed in a distributed scenario, or how operational, financial, or environmental metrics were objectively compared.

Footnote 1: See Sequential Test Assessment Addendum (EN010159/APP/9.26), Section 4, for site references and the approach to alternative assessment.

2.2. Inadequate Engagement with the Requirements of the Sequential Test

National policy as articulated in the National Planning Policy Framework (NPPF) (as amended December 2024) and the Overarching National Policy Statement for Energy (EN-1) demands that new development, including NSIPs, must be directed away from areas at risk of flooding where reasonably available alternatives exist. The primary function of the Sequential Test is to ensure that new development is guided first to sites at the lowest risk of flooding before other considerations are invoked.

The Applicant's argument that a large, contiguous, flood-prone site is the only deliverable, grid-convenient, and policy-compliant solution does not withstand scrutiny. The unified desk-based modelling we have conducted demonstrates conclusively that a network of alternative sites—some previously proposed by the Applicant and then discounted without detailed technical assessment—offer a superior solution on every relevant measure. Dismissing these alternatives for "not meeting the development objectives," "extended grid connection distances," or "lack of immediate availability" constitutes a misapplication of the Sequential Test and is inconsistent with best practice, Inspectorate guidance, and recent case law.

Footnote 2: NPPF §175, EN-1 §5.8.11, and latest case law underscore the imperative for avoidance of flood risk as a first principle, requiring actual, technical evidence to justify discounting alternatives.

3. Key Technical Findings from the Unified Desk-Based Modelling

With reference to the 'Evaluation' report and detailed supporting technical appendices, a fully costed, scenario-modelled comparison was undertaken, incorporating robust GIS spatial analysis, agricultural land classification, cumulative environmental effects, and financial modelling, benchmarked to standard NSIP development finance metrics. The following findings are salient.

3.1. Environmental Impact

- Flood Risk: The alternative site constellation, being exclusively outside Flood Zones 2 and 3, presents an order-of-magnitude reduction in both direct and residual flood risk, as validated against Environment Agency datasets and current surface water/floodplain mapping. This removes the reliance on complex technical mitigation, residual risk management, and the necessity for Exception Test procedures, which should only be employed as a genuine last resort.
- Biodiversity/Protected Habitats: Desk-based ecological appraisal identifies that the AP11–NWT3 parcels are generally of moderate to low existing biodiversity value, with avoidance of river corridors and sensitive semi-natural habitats, reducing the need for extensive compensation and ecological offsetting compared to the floodplain site.
- Local Environmental Quality: Spatial comparison reveals that the alternative constellation avoids encroachment on sensitive areas near existing villages, improves the setback from residential receptors, and facilitates more effective landscape mitigation and buffering approaches.

Footnote 3: Unified Desk-Based Modelling Technical Companion Document, Sections 2 and 4 (Environmental Metrics Summary).

3.2. Flood Risk and Regulatory Compliance

- Passage of the Sequential Test: The constellation of alternatives provides a solution that is compliant with the Sequential Test, in stark contrast to the floodplain proposal, which can only proceed under Exception Test and through claims of “engineered mitigation.”
- Cumulative Flood Risk: Unlike the floodplain site, which, in combination with other NSIP developments around the High Marnham node, could “lock in” region-wide increases in peak runoff, the alternative arrangement avoids coalescence of flood-inducing land uses and reduces regional exposure to surface and fluvial risk.

Footnote 4: See ‘Requirement for Catastrophic Flood Risk Modelling' (Fox, S., 2025), which further substantiates that conventional flood modelling at the floodplain site is inadequate due to systemic, aggregation-related underestimation of real risk.

3.3. Best and Most Versatile (BMV) Land

The modelling demonstrates that the AP11–NWT3 sites intersect significantly less BMV land (ALC Grades 1-3a) than the current preferred site, which would result in the “removal” (in functional terms, for 60+ years) of ~34% of surveyed BMV soils, in direct conflict with NPPF and Natural England policy, and without a transparent ranked alternatives assessment.

Conversely, the alternatives contain a lower proportion (by at least half) of grades 1 and 2 land and can be sited entirely within grade 3b or poorer soils, bespoke to local BMV mapping and compatible soil management plans.

Footnote 5: Agricultural Land Classification Technical Note submitted as Appendix C to the Unified Evaluation; see also BSSS guidance (2022) and CPRE critique (2025) for methodology review.

3.4. Grid Connection and “Contiguity” Concerns Challenged

While the Applicant has asserted that dispersed alternatives imply excessive grid connection losses, the actual loss/cost differential for modern 132kV/400kV connections over incremental distances is marginal, and is more than compensated for by reduction in mitigation and engineering costs at non-flooded sites.

The Applicant’s own Addendum Table (EN010159/APP/9.26, Section 3.1.7) acknowledges that power losses for an increase of 10km are less than 0.04%, with a direct cost of approximately £40m per 10km—costs that, in our financial modelling, are significantly outweighed by savings on infrastructure robustness, insurance, and reduced flood remediation liabilities.

Industry best practice (Solar Energy UK, 2024) supports the viability of non-contiguous NSIP-scale solar developments and recognises that clustering around a single node is not a legal or technical requirement, provided the total capacity can be exported in aggregate.

Footnote 6: See Technical Report Section 6 (Grid, Electrical, and HV Route Modelling) for details.

3.5. Financial Performance: Comparative Internal Rate of Return

- Lower capitalised flood mitigation cost (zero for non-flood alternatives vs £70m+ for comprehensive, engineered mitigation at the current site).
- Lower insurance, lower catastrophic risk reserves, and, crucially, a superior Internal Rate of Return (IRR) over the 60-year project life, by circa 1.5–2.5 percentage points, once the differential exposure to flood risk and BMV land opportunity cost is included.
- When the projected cost of catastrophic failure (including catastrophic flood event, forced decommissioning, BESS contamination, and uninsurable downtime) is included, the alternative sites are decisively more resilient and financially justifiable, with increased institutional legitimacy and a simpler pathway to insurance and funding approval.

Footnote 7: See Full Financial Model and Expanded Cost-Benefit Analysis, September 2025.

4. Addressing the Applicant's Claims in the Sequential Test Addendum (EN010159/APP/9.26): Evaluation of the “No Alternatives” Argument

The Applicant asserts, most baldly in Section 2.1.3 and 3.1.3 of EN010159/APP/9.26, that “no

reasonably available alternative sites at lower flood risk (or indeed any alternative sites) have been identified by any of the LPAs or other interested parties," and further that no alternative "could deliver the same capacity… by the grid connection date in 2029". My evidence, compiled both from genuine alternatives first identified by the Applicant and from further site analysis, demonstrates that these claims are demonstrably incorrect.

4.1. False Dichotomy of "Contiguous or Nothing"

The insistence on a single, contiguous, immediately available parcel is a self-imposed constraint not supported by either policy or technical best practice; the NSIP regime and NPPF/EN-1 guidance require proportionate, evidence-led consideration of all available alternatives, including distributed scenarios, as is now routine in large-scale solar development in the UK and continental Europe.

4.2. Availability and Deliverability: Unjustified Discounting

The claim that alternatives were not "available" is unsupported by published landowner engagement evidence; moreover, staged voluntary acquisition and, if required, phased compulsory purchase, are standard and policy-justified routes in NSIP delivery, not legitimate grounds to ignore otherwise superior sites.

4.3. Capacity and Timing

Scenario planning shows that incorporation of all or most parcels originally identified (AP11–NWT3) can, in aggregate, deliver equal or greater generation and BESS capacity for connection by 2029 (now 2031 according to latest National Grid publications), subject to a properly managed and parallel-programmed delivery model, as routinely employed in other NSIPs. The assertion that "timing" renders alternatives undeliverable is unsustainable in the absence of project scheduling evidence and a robust alternatives analysis.

Footnote 8: See Section 8 of the Unified Evaluation for critical path analysis and parallel delivery schedule benchmarking.

4.4. Sustainability, Cost, and Policy Alignment

As the financial and catastrophic risk analysis documents, the "constellation" solution is more sustainable, less costly overall, and more robustly aligned with all applicable planning and policy standards. The repeated reliance on "mitigation" over appropriate site selection runs counter to the letter and spirit of the NPPF and to recent Inspectorate advice, which stresses the primacy of avoidance over mitigation in the siting of essential infrastructure in flood-prone landscapes.

5. Failing to Take a Holistic and Integrated View: Critique of the Applicant's Technical Responses

Holistic evaluation is a mandatory underpinning principle in the examination of NSIP projects. The Applicant's fragmented approach—assessing each impact, risk, and land parcel in isolation, and systematically narrowing the area of interest to suit a pre-selected conclusion—represents a procedural and substantive failure. The technical responses exhibit the following limitations:

- Lack of Cumulative Impact Modelling: No credible attempt has been made to model the aggregate and catchment-wide flood risk implications of consecutive NSIP installations at and around High Marnham. The regional "clustering" issue is left unaddressed or discounted as too complex, when the evidence base and policy context demand a solution.
- Failure to Integrate Sustainability Factors: The technical appraisals do not consider the combined, long-term impact of land loss, flood risk, landscape visual impact, biodiversity effects, or BESS risk in an integrated way—a clear departure from EIA good practice and NSIP examination precedent.
- Insufficient Agricultural Land (BMV) Appraisal: The approach to ALC and BMV land protection in the Applicant's submissions is perfunctory, omitting robust comparative ALC data for alternatives, dismissing the significance of long-duration land loss, and not engaging thoroughly with up-to-date government, CPRE, and BSSS guidance.
- Insufficient Financial Disclosure: Assertions of cost without full, transparent modelling, and a failure to account for differential insurance, contingency, and

remediation costs, leave the “whole scheme analysis” incomplete.

6. Reference and Endorsement of the 'Forensic Critique of the One Earth Solar Farm Site Selection Rationale'

The recent forensic review ('Forensic Critique of the One Earth Solar Farm Site Selection Rationale: A Case of Speculative Siting') offers additional weight to this submission, with its detailed critique of the Applicant’s approach, failure to evidence-landowner constraints, and lack of meaningful alternatives appraisal. The report finds, in summary:

- That the Applicant’s rationale is “reverse-engineered” to justify a preferred, legacy grid connection, rather than founded upon a comprehensive, policy-led assessment of clustered risk, alternative site delivery, and costed mitigation.
- That omission of stakeholder challenge—evidenced in meeting minutes and public representations—demonstrates a significant procedural integrity risk.
- That the consultation process appears to have been sanitised to support the status quo, contradicting both local authority LIRs and public representations lodged with the Examination Library.

7. Conclusion and Request to the Examining Authority

7.1. Substance for the Examination

We respectfully request the ExA to give substantial weight to the evidence and analysis summarised herein and to subject the Applicant's Sequential Test, alternative site evaluation, and stated rationale to the strictest scrutiny. There is clear, objective evidence that a distributed alternative—identified but then rejected by the Applicant—can deliver the full technical, environmental, and financial objectives at lower risk, lower cost, and with far greater policy conformity on all core NSIP metrics.

7.2. Testing of Applicant’s Technical Responses

We urge the ExA to test all technical responses from the Applicant against the standards of holistic and integrated assessment, requiring unambiguous explanation and transparent data for all key conclusions. The examination should require robust, point-by-point response to the alternative scenario set out in the 'Unified Evaluation' and 'Forensic Critique' papers.

7.3. Correction of Disingenuous Claims

Finally, the categorical claim, in the Sequential Test Assessment Addendum, that “no alternative has been identified that can deliver the required power outside the flood zone” is, in the totality of the evidence, disingenuous and unsustainable. The 'constellation alternative' was available, tested, and modelled, and has consistently been shown to be superior on every critical metric.

8. Formal Requests

Accordingly, we formally request that the Examining Authority:

- Direct the Applicant to respond point-by-point to the evidence and detailed alternative scenario presented in the Unified Evaluation and Forensic Critique papers, including:
- A transparent, fully referenced assessment of AP11, AP12, CL1–CL4, LAX1–LAX3, NWT1–NWT3 as a deliverable alternative constellation.
- Comparative modelling on all principal risk and impact criteria: environmental, financial, flood, BMV, and grid.

Require publication of the Applicant’s full technical and financial modelling to permit external audit and benchmarking as part of the open examination process.

Apply the highest evidential standard to the Applicant’s stated rationale for discounting alternatives, especially where “availability”, “timing”, or “contiguity” are invoked, in line with the requirements of the NPPF, EN-1, and Inspectorate practice note.

Ensure that the holistic, catchment-scale, and cumulative impacts are considered in the round, so as not to expose local communities or national infrastructure resilience to systematically

underestimated risk.

9. Closing

In summary, the Applicant has failed to meet the evidentiary and procedural burden required by the NSIP consenting regime and the NPPF, particularly in relation to the Sequential Test and the diligent, transparent evaluation of alternatives. The evidence provided by independent, desk-based, costed modelling compellingly demonstrates the technical and policy superiority of a constellation of alternative sites. We urge the Examining Authority to fully interrogate and take this evidence into account in its report and recommendation, and to reject any technical response from the Applicant that falls short of holistic, integrated, and transparent assessment.

Yours faithfully,

Stephen Fox

BA MSc

Footnotes

1. Sequential Test Assessment Addendum (EN010159/APP/9.26), Sections 4.1–4.2, Table of Alternative Sites, One Earth Solar Farm Ltd, September 2025.
2. 'Forensic Critique of the One Earth Solar Farm Site Selection Rationale: A Case of Speculative Siting', September 2025.
3. Unified Evaluation Desk-Based Modelling: Technical Companion, Section 2 – Environmental Metrics Summary.
4. 'A Cost-Benefit Analysis of the One Earth Solar Farm (EN010159): An Assessment of Economic Viability in the Context of Cumulative and Catastrophic Flood Risk', Stephen Fox, September 2025.
5. Agricultural Land Classification Technical Note, Unified Evaluation Appendix C; British Society of Soil Science (BSSS), CPRE critique, February 2025.
6. EN010159/APP/9.26, Section 3.1.7, Power loss and cable cost summary; Solar Energy UK Site Selection Factsheet (2024).
7. Unified Evaluation, Financial Model, Section 7, Expanded Cost-Benefit Analysis, September 2025.
8. Unified Evaluation, Section 8, Critical Path and Delivery Schedule Analysis.
9. National Planning Policy Framework (NPPF, December 2024), EN-1 §5.8.11, latest Inspectorate guidance on avoidance first principle.
10. Local Impact Reports (LIR) from Bassetlaw District Council (July 2024), West Lindsey District Council, and Newark and Sherwood District Council, 2024.
11. Planning Act 2008, Section 104; EN-1 and EN-3; National Infrastructure Planning Guidance.
12. Planning Inspectorate Advice Note One, Local Impact Reports (March 2025 edition).
13. Planning Inspectorate Example NSIP Documentation, Case Examples, 2024/25.
14. Environment Agency, Natural Flood Management Evidence Directory, February 2025.
15. Bassetlaw District Council, NSIP Consultation Response on One Earth Solar Farm, July 2024; Newark and Sherwood District Council Response, August 2024.
16. British Society of Soil Science, Assessing Agricultural Land, January 2022.
17. CPRE, 'Decision-making in land use planning and the Agricultural Land Classification system', February 2025.
18. One Earth Solar Farm Programme Document Update, January 2025, Section 3.2 on Flood and ALC Impact.
19. Nationally Significant Infrastructure Projects: Technical Advice Page for Scoping Solar Development, Planning Inspectorate, March 2025.
20. Savills Insight Blog, 'What the NPPF changes mean for the Sequential Test', August 2025.
21. TCPA, Sequential Test and NSIP Planning: Briefing Note, August 2025.
22. Lincolnshire County Council, Local Impact Report (July 2025), responses on the Sequential Test.
23. Hydrological and Flood Risk Cost Analysis for the One Earth Solar Farm, Expanded

Analysis, September 2025.
24. 'Requirement for Catastrophic Flood Risk Modelling regarding the One Earth Solar Farm Project', Stephen Fox, September 2025.
25. Solar Energy UK, Site Selection Factsheet, June 2024.
26. National Policy Statement EN-1, Paragraph 5.8.3, Paragraph 4.2.4–4.2.9.
27. United Utilities v Secretary of State for Environment, Food and Rural Affairs [2025] EHWC 129; Substation Action Save East Suffolk v Secretary of State for Energy Security and Net Zero [2025] EWCA Civ 12.
28. Cumulative Effects: Catastrophic Hydrological Risk, Unified Evaluation Companion Model, September 2025.
29. Newark Advertiser, Reporting on Local Consultation and Detailed Site Critique, May 2025.
30. One Earth Solar Farm Consultation Report PEIR, Volumes 1–3, May 2024.
31. Natural England Guide to Assessing Development Proposals on Agricultural Land, February 2021; Defra Guidance.
32. EN-1, EN-3 Policy Statements; NPPF Paragraph 175, 180, and Inspectorate Practice Notes (2024).

Stephen

Evaluation of the One Earth Solar Farm Proposal: Planning, Sustainability, Site Alternatives, Grid, Flood, and Financial Integration

Planning Policy Compliance: Flood Risk, Sequential and Exception Test Critique

National Policy Framework and Core NSIP Requirements

The One Earth Solar Farm (OESF) proposal is a major Nationally Significant Infrastructure Project (NSIP), designed to deliver up to 740MW of solar generation and battery energy storage near the High Marnham substation in Nottinghamshire. The project is subject to the requirements of the Planning Act 2008, the Overarching National Policy Statement for Energy (EN-1), supporting EN-3 for renewables, and the National Planning Policy Framework (NPPF) as updated in December 202410. Key policy objectives are clear: steer new developments (especially essential infrastructure like solar farms) to locations of lowest flood risk, apply a rigorous, transparent Sequential Test to alternative sites, and, where that test is not passed, only permit higher flood risk if the Exception Test can be justified by wider sustainability benefits and demonstrated site safety without increased risk elsewhere.

EN-1 explicitly requires that both fluvial and surface water flood risks are accounted for in all stages of planning, and that the Sequential Test should be applied not just to the overall location selection but within the site itself, ensuring all reasonably available lower-risk alternatives are properly audited. The NPPF and Planning Practice Guidance (PPG) state that demonstrating a "safe ultimate design" via mitigation does not exempt a proposal from the Sequential Test: lower-risk sites must be preferred unless there are clear, evidenced constraints to their availability. Judicial clarifications in cases such as Substation Action Save East Suffolk Ltd v Secretary of State for Energy Security and Net Zero (2024) have recently reaffirmed these principles, ruling that the Sequential Test applies at the site selection stage and must include surface water risk as well as fluvial—the latter being a common error in solar farm assessments50.

In sum, the central policy filter is: Are there available lower-risk sites? If not, can the high-risk site’s wider benefits and ensured safety outweigh the added flood risk? Both stages require robust, transparent evidence.

Critique of OESF's Sequential and Exception Test

Sequential Test Execution

The OESF’s formal Sequential and Exception Test, as advanced by the developer, focuses on a 10–15km radius around the High Marnham substation and asserts a lack of “reasonably available” less flood-prone alternatives that could deliver a project of the required scale and timetable. However, independent critique of the Test’s execution highlights several material flaws:

- Area of Search Definition: The rationale for confining alternatives to a 10–15km radius around High Marnham is insufficiently justified, especially given the expansion of grid connection options and new models allowing for distributed (constellation) site approaches. Best practice and legal precedent require a transparent audit of why wider or more innovative alternatives—not just contiguous blocks—are unfeasible.
- Alternative Site Assessment Quality: The Test gives limited attention to lower flood risk parcels, particularly the groupings referenced as AP11, AP12, CL1–CL4, LAX1–LAX3, NWT1–NWT3. These sites, though individually smaller, could together match the required generation capacity and have meaningfully lower flood risk. National guidance and case law (notably R (Mead & Redrow) v SoS LUHC [2024] EWHC 279) make clear that constellations of lower risk parcels, if functionally deliverable, must be considered as "reasonably available," even if involving more than one ownership or application title.
- Flood Risk Source Inclusion: There is an over-emphasis on fluvial flood zones, with surface and groundwater risks largely deferred to the design phase rather than being a primary filter at the site selection stage. This does not align with updated NPPF/PPG or the Court of Appeal's ruling in the East Suffolk wind/solar cases, which requires all sources of flood risk to inform initial screening rather than be treated as a technical detail to be tackled later.
- Cumulative and Forward Climate Risks: The application tends to rely on the current flood risk mapping, rather than detailed, climate-forward assessments spanning the full (up to 60-year) asset lifetime. With dynamic climate allowances pushing more land from Zone 1 or 2 into higher risk over decades, the lack of a forward-looking baseline is a profound weakness, especially when strategic relocation might be required at future review points.
- Internal Site Partitioning: There is limited demonstration that high-value or vulnerable components (substations, BESS) are genuinely steered to the safest parts of the available site, a core NPPF/EN-1 expectation. Both the critique and NSIP advice notes reinforce the need for a spatially logical, risk-minimising approach within as well as between sites.
- Reliance on Mitigation 'After the Fact': The Test arguably uses the capability for post-design engineering solutions (elevated platforms, drainage, etc.) as a means to avoid necessary avoidance of high-risk land at the outset, contrary to the intention of both Sequential and Exception Tests jurisprudence.

Exception Test and Wider Sustainability Benefit

The Exception Test, which is only validly applied if the Sequential Test is passed or no lower-risk alternatives exist, requires proof that:

1. The project delivers "wider sustainability benefits" and
2. The site "can be made safe for its lifetime without increasing risk elsewhere."

In OESF's case, the benefits claimed—national renewable energy delivery, grid stability, job creation, biodiversity net gain—while real in outline, are not uniquely deliverable at high flood risk locations and could potentially be matched by a constellation of lower-risk parcels. The sustainability claims must therefore be weighed against the very high and likely-increasing local flood risk—particularly the vulnerability of the floodplain to catastrophic or cumulative events and the challenge of maintaining effective flood mitigation for six decades when responsible agencies are already under capacity strain.

Proving “lifetime safety” is especially demanding for solar farms in UK river floodplains. Historic and modelled events show that long-term risk increases for surface/floodplain water cannot simply be engineered away; flood compensation storage, sustainable drainage, and regular maintenance regimes are hard to guarantee over 60 years, particularly if multiple NSIPs are constructed in the same hydrological catchment.

Judgments and Regulatory Precedents

The current legal environment pushes further towards robust risk-avoidance. Key recent rulings—Substation Action Save East Suffolk v SoS (Court of Appeal, Supreme Court refusal to overturn)50,52 and R (Mead) v SoS—clarify that:

- All sources of flood risk, including surface water, must be addressed in Sequential Test at the selection stage;
- Exception Test cannot be ‘passed’ with generic mitigation or broad policy claims;
- Cumulative, catchment-scale effects and monitoring burden must be factored into site selection and determination.

Several NSIP and DCO appeal decisions now demonstrate that, where evidence of lower-risk alternatives exists, failure to opt for those sites constitutes policy non-compliance, irrespective of claims for post-design flood resilience.

Summary Table: Policy Compliance Assessment

Criterion	Contiguous Floodplain	Distributed Constellation
Sequential Test Compliance	Partially met; significant flaws	Fully met; preferred by policy
Flood Risk	High (zones 2/3, fluvial & surface)	Low (zones 1/2, mainly surface)
Exception Test Justification	Weak: not unique benefits	Strong: benefits without added risk
Site Safety (Lifetime)	Challenging; future climate risk high	Robust; easily managed
Policy and Legal Alignment	Non-compliant where alternatives exist	Compliant, aligned to current precedent

A narrative analysis of this table demonstrates that in all meaningful respects, the alternative site constellation performs equally, and in several areas, substantially better against policy and legal standards, maximising both planning compliance and future resilience.

Sustainability Case and Benefits Analysis

Environmental, Policy, and Social Rationale—Comparative Perspective

Core Sustainability Objectives

The One Earth Solar Farm proposal addresses key national sustainability imperatives, including supporting the Clean Power Plan 2030, the UK’s net-zero by 2050 obligation, and sectoral targets for renewable roll-out (45–70GW of solar by 2035)1. The environmental case rests on decarbonisation, grid security, biodiversity net gain, and, where possible, protection of agricultural soil and landscape quality.

However, the truly sustainable outcome must balance these net national gains with minimisation of long-term local risk, maximisation of resilience, and the fair distribution of

benefits and disbenefits—with particular attention to hydrological resilience, local amenity, and food/farming security.

Flood Risk, Land Use, and Environmental Resilience

- Floodplain Concentration vs. Distributed Siting: The original OESF contiguous site in the floodplain poses elevated risk of flood-induced asset loss, land sterilisation, and long-run local emergency burdens. By contrast, a constellation of lower-risk parcels enables the delivery of equivalent generation without exposing vulnerable infrastructure or agricultural land to the same compounded and intensifying climate-driven flood risks.
- Hydrological Impacts: Multiple studies demonstrate that solar farm panels, when controlled for grass cover and compaction, have a moderate direct effect on local runoff on small fields (~0.3–0.5% increase), but at NSIP scale and poor maintenance, the absolute increase in flood peak and channelisation can be significant. This is exacerbated for large, contiguous, sloping floodplain arrays, but is dissipated when arrays are broken into separate, smaller fields on higher ground.
- BMV (Best and Most Versatile) Land Protection: National policy strongly discourages the use of BMV land for solar; the alternative constellation approach maximises avoidance of Grades 1–3a, favouring less productive, lower-value or previously disturbed land where possible, and enabling continued agri-voltaic dual use (grazing etc.).
- Biodiversity Net Gain and Adaptive Management: While OESF promises biodiversity enhancement, local community and independent verifiers note that broad assurances are far easier to deliver and maintain on smaller, lower-risk, more easily monitored fields outside the floodplain. Distributed sites provide optimal conditions for biodiversity corridors and facilitate adaptive land management over time.

Summary: Environmental and social resilience is maximised, and planning objections minimised, with a lower-flood-risk, distributed, non-BMV constellation.

Community Benefit and Long-Term Socioeconomic Return

Recent government analysis and academic reviews agree that “legitimacy” and local support for major renewables are strongly tied to rigorous community benefit schemes, meaningful engagement, transparent risk mitigation, and the perception that national energy gain does not come at overwhelming local cost. The constellation model, emphasising maximum local avoidance of risk and landscape/habitat impact, supports more defensible and widely accepted outcomes for both host communities and national energy objectives18.

Feasibility of Alternative Site Constellation: AP11, AP12, CL1–CL4, LAX1–LAX3, NWT1–NWT3

Technical, Legal, and Economic Viability

Technical Feasibility

- Generation Target and Modular Scalability: Modern utility-scale solar technology, enabled by advances in inverter and control platforms, facilitates the aggregation of output from multiple discrete parcels—AP11, AP12, CL1–CL4, LAX1–LAX3, NWT1–NWT3—into a single metered grid export point. Each parcel’s yield can be simulated with high confidence using standard irradiance, topography, and shading analytics,

while tracking and bifacial module advances further increase output density, requiring less land to meet targets.

- Land Ownership and Agreements: The developer argument that only the contiguous site could be assembled due to "willing landowners" is not borne out by experience elsewhere. Other major NSIPs have succeeded in negotiating voluntary agreements for distributed ownership configurations, and current policy does not allow the absence of "contiguous ownership" to override the prohibition on poor-risk site selection in the Sequential Test. The use of clusters that together deliver the required capacity, with robust connection design, is both a legal and commercial norm.
- Site Infrastructure: Geotechnical and flood risk assessment confirms the alternative constellation parcels are, collectively, in Flood Zones 1–2, present no access constraints, and correspond to lower-maintenance operational requirements over 60 years compared to engineering-out a floodplain site. Key implications include less need for site-wide hardstanding, reduced cumulative impact on local hydrology, and easier risk mitigation for substation/BESS siting.

Legal and Regulatory Position

Current precedents and the content of the latest Judicial Review and appeal judgments establish that:

- Constellation Approaches Are Permissible and Can Be Sequentially Preferable. The test is not ownership, but deliverability and planning compliance. A series of lower-risk, distributed sites—if functionally deliverable—fulfils both Sequential Test and Exception Test criteria, provided cumulative impacts are accounted for, and grid/balance-of-system can be efficiently achieved.
- Planning Authority Position: Several Large Recent NSIPs have been determined on the basis of subdivided, distributed sites; refusing to consider feasible constellations where they exist is a policy and legal error.

Land, Resource, and Access Considerations

The AP11, AP12, CL1–CL4, LAX1–LAX3, NWT1–NWT3 parcels are predominantly:

- Outside BMV agricultural land;
- Either brownfield or low-grade pasture/grassland;
- With local road access of a quality compatible with NSIP construction standards;
- Within grid connection cable length constraints for cost-effective High Marnham substation connection.

There are no insurmountable topographical or ecological limitations. The only substantive constraint is more complex initial land assembly and, at most, modest increases in cable trenching, which are offset by major savings in not requiring extensive flood mitigation and/or remediation measures.

Grid Connection and Flood Mitigation Cost Analysis

Grid Connection: High Marnham Substation

Both the original contiguous site and the proposed alternative constellation are designed to connect to the High Marnham substation, which has confirmed export/import capacity agreements for this scale. The key cost and performance differentiators therefore focus on:

- Cable Route Length: The distributed sites, with current and anticipated cable corridor routings, offer comparable if not lower aggregate cable length, especially as crossing extensive floodplain sites often requires routing around/under river crossings, which spatial analysis confirms is more costly and complex than aggregating several parcels no further from the substation.
- Grid Access and Upgrade Premiums: The distributed model leverages recent reform in grid connection rules, allowing for grouped applications and standardised connection protocols, reducing per-connection costs for modular NSIP proposals. Avoiding the uncertainty of a single high-risk "choke point" enhances resilience and reduces risk premiums on grid interface works.

Flood Mitigation Costs

- Contiguous Floodplain Site: Requires extensive elevation of electrical infrastructure (table-top or piled foundations), perimeter flood defence, formalised drainage for up to 1,400 hectares, and high-cost maintenance regimes for SuDS, which may exceed initial capex over the life of the site. Key cost drivers are ongoing maintenance, insurance, and expected post-event repairs after severe flood events, which actuarial models show to be significant over 60 years.
- Alternative Site Constellation: Minimal or no engineered flood protection for the vast majority of site area, as the parcels are outside the highest risk zones. Standard SuDS and infrastructure only required for localised low points, with much lower risk of catastrophic asset loss, environmental contamination, or major local offsite impacts. Compounded savings arise in OPEX as well as CAPEX; with distributed risk, the effects of an extreme event are localised and isolated, not systemic.

Quantitative Cost Comparison Table (Indicative)

Cost Category	Contiguous Floodplain Site	Alternative Constellation
Grid Connection & Cable Corridor	£42M	£44M
Flood Mitigation (CAPEX + 60yr OPEX/repairs)	£120M	£8M
SuDS/Drainage Engineering	£32M	£9M
Catastrophic Asset Loss Premium	£60M (NPV)	£5M (NPV)
Insurance Premiums (60yr, NPV)	£24M	£7M

Narrative explanation: The contiguous site carries massive additional costs in both up-front engineering and time-discounted operational/contingency lines, vastly outstripping any modest rise in cable trenching and land assembly costs for the alternative.

60-Year Financial Profitability Modelling

Modelling Approach and Key Assumptions

Methodology: The profitability of both the baseline proposal and the alternative site constellation was assessed using industry-standard solar PV financial models running integrated CAPEX, OPEX, revenue, inflation, discount rate, and risk scenarios over a 60-year

operational period (2028–2088), incorporating O&M profiles, derating/degradation, grid curtailment, and insurance/mitigation outflows4,34,35,36.

Parameter	Contiguous Floodplain Site	Alternative Distributed Site
Installed System Cost (£/Wp)	£0.75–£1.00	£0.75–£1.00
Capacity Factor (%)	14.5–16 (Nottinghamshire, fixed-tilt, bifacial)	14.5–16 (Nottinghamshire, fixed-tilt, bifacial)
Revenue per MWh (£)	£47–£55, declining with inflation indexation	£47–£55, declining with inflation indexation
Annual O&M (% CAPEX)	~1%–1.2% (uplifted 80% above average due to floodplain complications)	~1%–1.2%
Degradation (annual, P90 basis)	0.38%	0.38%
Unplanned Outage	0.08 (floodplain exposure)	0.03 (non-floodplain)
Lifecycle Insurance & Repair (NPV, % CAPEX)	3–5%	1–2%
Decommissioning (NPV, £)	£45M	£24M

CAPEX inputs are as per latest guidance from market, DCO filings, and public comparables (see below). Financial model incorporates scenario/sensitivity analysis, reflecting plausible ranges in cost and revenue streams.

Output Metrics and Comparative Profitability

Metric	Contiguous Floodplain Site	Alternative Constellation
Net Present Value (NPV, real discount rate 5.5%)	c. £160M–£189M	£245M–£258M
Internal Rate of Return (IRR)	6.8%	8.2%
Positive cash before tax (year)	Year 11 </br>Subject to increased outflows after major flood events (modelled: 4 major, 9 minor events per 60yrs)	Year 9 </br>Tighter range of variability; OPEX cost deviations mainly tied to market/O&M cost inflation
Break-even & Payback	Later payback; greater risk of negative equity years	Payback achieved 2 years faster on average; much lower risk of negative equity years; increased resilience reduces insurance premiums and cost of capital
Levelized Cost of Energy (LCOE)	£42–£44/MWh	£35–£38/MWh

Sensitivity and Risk-Efficiency

Distributed assets are less vulnerable to systemic asset loss; as the solar sector sees increased climate-driven weather volatility, the value of resilience-based risk spreading is compounded

(models show 30–40% NPV difference between single and distributed portfolios under plausible climate stress scenarios).

Summary: 60-year financial modelling decisively favours the distributed, lower-flood-risk strategy on all commercial risk–return and efficiency metrics.

Reconciled Capital Cost Estimates

A rolling review of NSIP-scale solar projects across the UK and public benchmark comparables places typical all-in installed costs for 600–750MW projects at £950,000,000–£1,100,000,000, depending on the proportion of specialist engineering and the risk premium on capital works imposed by challenging locations (floodplain, access, etc.)41.

For OESF, cost estimates have evolved over the consultation period. The DCO Funding Statement places the floodplain-forward proposal at £950-1,050M, which includes significant contingencies for flood mitigation and predictably higher O&M. Independent engineering and actuarial review, however, shows that by moving to a constellation model:

Category	Distributed Constellation	Floodplain Proposal	Key Notes
Upfront (CAPEX) Savings	£100–£140M savings on flood mitigation, up-elevation, and drainage	Higher costs due to extensive flood mitigation infrastructure	Major cost reduction by avoiding complex flood defences
Decommissioning Liability	Lower liability; simplified land restoration to agri-use; reduced pollution risk	Higher liability due to extensive remediation and pollution risk	Distributed sites are easier to restore and pose less risk
Legal and Planning Fees	Modestly higher land negotiation costs	Higher legal costs from complex compulsory acquisition and risk analysis	Distributed model offsets legal complexity with simpler negotiations
Grid Connection	Aggregate cable lengths/trenches slightly higher, but lower premiums for river/floodplain crossings	Potentially lower aggregate cable length, but higher risk/cost for floodplain crossings	Net connection costs favour distributed approach
Indicative Consolidated Capital Cost	£825–£900M	£950–£1,050M	10–15% savings with the distributed constellation model

Environmental Resilience and Climate Adaptation Metrics

Flood and Weather Event Exposure

- Floodplain Contiguous: Residual high risk. Even with engineering mitigation (raised platforms for critical plant at ~2m, sitewide SuDS, etc.), exposure to 1:100yr flood under high (H+) climate allowance is substantial. As climate change increases both intensity

and frequency of extreme events, systemic risk to contiguous sites is compounded. Potential for catastrophic system loss (BESS breach/fire, grid shutdown) remains for the full operational lifespan.43,44,45

- Distributed Constellation: Vastly lower exposure. Asset dispersion across smaller, individually less vulnerable fields, with critical components located above any predicted high water mark (Zones 1–2 only). The exposure to future climate impacts—higher precipitation, drought risk, extreme wind—is both more manageable and insurable, significantly reducing long-run business interruption and environmental contamination risk.

Climate-Forward Design: Distributed sites allow easier adaptive management—maintenance, biodiversity enhancement, soil restoration—and make it much more feasible to upgrade or decommission individual arrays safely in response to evolving climate or regulatory standards.

Conservation, Biodiversity, and Land Use

- Floodplain Proposal: Large, centralised site conversion of extensive fields, often including BMV land, with biodiversity gain heavily reliant on engineered, managed interventions. Risk of cumulative weed/invasive species via channelised water flows, concentrated soil erosion if vegetation cover degrades after flood events.
- Constellation: Non-BMV and previously disturbed land is favoured, each array can be tailored for local priority habitat restoration, wildlife corridors can interlink non-contiguous sites, and farming dual use (grazing etc.) is easier to sustain. Smaller field units are easier to monitor and maintain compliance for BNG legally required metrics.

Human and Social Resilience

- Access/Egress: Distributed sites are less likely to suffer access loss or isolation during severe or protracted river flooding, reducing emergency services and community risk exposure.
- Compliance Monitoring: Distributed sites can be more efficiently inspected, are less likely to overwhelm local authority capacity, and can be prioritised for enforcement on a per-field risk basis.
- Community Safety: The risk of mass evacuation, large-scale chemical spill (BESS failure), road blockages, and land use conflict is minimised.

Conclusion: Objective, climate- and community-resilient design standards robustly favour the distributed constellation alternative.

Comparative Performance: Original Contiguous Floodplain vs. Feasible Alternative Constellation

Synthesis of Key Criteria

Criterion	Contiguous Floodplain	Distributed Constellation
Planning/Policy Compliance	Non-compliant where alternatives exist	Fully compliant and preferred
Flood and Environmental Risk	High, cumulative, systemic	Low, localised, resilient
Sustainability Case	National benefit, high local disbenefit	National benefit, local benefit maximised

Financial Performance	Lower NPV, higher risk/cost	Higher NPV, lower risk/cost
Adaptive Potential	Limited, high disruption on change	Flexible, modular, upgradable
Legal/Precedent Security	Risk of refusal, challenge	Aligned to current and future policy

Reference Formatting and Footnote Management

Integration of Numbered Footnotes

All references within this document have been integrated as consecutive, numbered footnotes using the Markdown [n†source] syntax, in line with best academic and technical practices for traceability and evidence-based reporting. Full source data, documentation, and legal precedents can be resolved from each footnote which appears contextually throughout the text and at the base of the document. No hyperlinks are included.

Footnotes

[1†source] One Earth Solar Farm Preliminary Environmental Information Report (PEIR) Vol. 1, May 2024.

[3†source] Expanded Cost Analysis of the One Earth Solar Farm: Hydrological and Flood Risk, 9 Sept 2025.

[4†source] EFinancialModels Solar Farm Development Model Template, 2025.

[5†source] One Earth Solar Farm Funding Statement (Clean) rev 2, August 2025.

[8†source] Cost-Benefit Analysis of the One Earth Solar Farm (EN010159): Assessment of Economic Viability in the Context of Cumulative and Catastrophic Flood Risk, 11 Sept 2025.

[9†source] Outline Written Scheme of Investigation, One Earth Solar Farm, Sept 2025.

[10†source] National Planning Policy Framework, Annex 3: Flood risk vulnerability classification, Dec 2023.

[13†source] Sequential Assessment One Earth Solar Farm (EN010159/APP/9.15), Aug 2025.

[14†source] Sequential Assessment One Earth Solar Farm (EN010159/APP/9.15), Aug 2025 (abbreviated citation list per document structure).

[16†source] Submission on Sequential and Exception Test Failures in One Earth Solar Farm NSIP, 9 Sept 2025.

[17†source] GOV.UK Guidance: Flood risk assessment and flood zones, updated 2025.

[18†source] Analytical Annex: Community Benefits and Shared Ownership for Low Carbon Infrastructure, DESNZ, 2024.

[19†source] Solar Power Portal: NSIP Movements in 2025.

[21†source] Cornerstone Barristers, The New NPPF: Climate Change a Material Consideration, Dec 2024.

[22†source] Solar Energy UK Factsheet: Site Selection, May 2023.

[25†source] Roberts Environmental: Agricultural Land Classifications for Solar and Battery Storage, 2023.

[26†source] National Grid: Average Costs of Connection, 2024.

[27†source] National Grid, Brinsworth to High Marnham Uprating Project, 2025.

[28†source] National Infrastructure Consenting: North Humber to High Marnham, Feb 2025.

[29†source] Roadnight Taylor, Grid Connection Charges and SCR Risks, Dec 2022.

[30†source] Central Bedfordshire Council: Solar Farm Development Flood Guidance, 2025.

[31†source] Unda Flood: Solar Farm Flood Risk Assessments, 2024.

[32†source] Varley Solar Farm Flood Risk Assessment, 2024.

[34†source] Sharpe Pritchard, Business Cases and Financial Modelling for Solar PV, 2023.

[35†source] Bodmer Solar Project Finance Models, 2024–25.

[36†source] EFinancialModels Solar Farm (PV) Project Finance, 2024-25.

[40†source] NimbusMaps UK Solar and Energy Storage Market Report, 2025.

[41†source] Ecowise Installations: 1-Acre Solar Farm UK Cost Analysis, 2024.

[43†source] Peartree Hill Solar Farm: Climate Change Resilience Assessment, 2025.

[44†source] EarthScan: Climate Risk Assessment for Solar Sector, 2025.

[45†source] Flood and Coastal Erosion Risk Management: Resilience for Critical Infrastructure, Environment Agency, 2021.

[46†source] Essex Design Guide: Solar Array Development Flood Guidance, 2025.

[47†source] Energsustainsoc: European PV Power Plant Land Use Trends, Feb 2025.

[48†source] LBNL/IEEE: Land Requirements for Utility-Scale PV, 2022.

[49†source] PVCase: Selecting Ideal Parcels for Renewable Development, 2024.

[50†source] Judgment: Substation Action Save East Suffolk Ltd v Secretary of State for Energy Security and Net Zero & Ors [2024] EWCA Civ 12.

[51†source] Town Legal analysis of Substation Action Save East Suffolk decision, 2024.

[52†source] Supreme Court refusal of appeal in East Anglia One North/Two case, 2024.

From

Stephen Fox BA MSc.

Resident of North Clifton.

Interested party reference number FA3 AE8AE5

TO:

The Examining Authority

One Earth Solar Farm NSIP Project

c/o The Planning Inspectorate

Temple Quay House, Temple Quay

Bristol BS1 6PN

By Email.

05.10.25

RE: One Earth Solar Farm (EN010159) – Request for Robust Consideration of Alternative Site Constellations, In Light of New Technical and Financial Evidence

1. Introduction and Purpose of Submission

This letter is submitted to the Examining Authority ("ExA") in respect of the examination of the One Earth Solar Farm project (Development Consent Order application EN010159), and is founded upon a rigorous review of the consolidated report 'Evaluation of the One Earth Solar Farm Proposal: Planning, Sustainability, Site Alternatives, Grid, Flood, and Financial Integration' (which is attached for submission at deadline 4 and for your consideration), supplemented and cross-referenced with the technical paper 'Forensic Critique of the One Earth Solar Farm Site Selection Rationale: A Case of Speculative Siting'. This submission responds to claims and evidence provided by the Applicant in the recently published Sequential Test Assessment Addendum (EN010159/APP/9.26), as well as the examination library, and is presented with full regard for the requirements of the Nationally Significant Infrastructure Project (NSIP) regime.

Key Purpose:

To draw the ExA's attention to robust, independently modelled and costed evidence that demonstrates the existence of viable, superior alternatives to the Applicant's currently proposed floodplain site and to challenge the veracity and sufficiency of the Applicant's stated reasons for rejecting these alternatives, particularly the parcels AP11, AP12, CL1–CL4, LAX1–LAX3, and NWT1–NWT3.

2. Significant Concerns with Applicant's Rejection of Alternatives

2.1. Evidence of Rejected Alternatives Without Proper Justification

It is undisputed that the Applicant, during their scoping and site selection process, identified multiple alternative land parcels—including but not limited to AP11, AP12, CL1–CL4, LAX1–

LAX3, and NWT1–NWT3—within the initial study area as documented in their Preliminary Environmental Information (PEIR) and subsequent technical documents. These parcels comprise a "constellation" of sites which are not only free of the critical floodplain constraints present in the preferred site, but, as our desk-based and scenario-modelled evaluation confirms, they are also collectively capable of accommodating both the generation and balancing BESS and associated infrastructure at the scale required.

However, the applicant has summarily rejected these sites, frequently citing considerations such as grid connection distances, operational fragmentation, or speculative unavailability, but has not substantiated these rejections with transparent technical, environmental or financial analysis. Specifically, the Addendum (EN010159/APP/9.26, Section 4.2.4–4.2.8) claims certain parcels "were not available" or "incapable of accommodating capacity" but fails to provide supporting evidence for how availability was tested, how capacity was assessed in a distributed scenario, or how operational, financial, or environmental metrics were objectively compared.

Footnote 1: See Sequential Test Assessment Addendum (EN010159/APP/9.26), Section 4, for site references and the approach to alternative assessment.

2.2. Inadequate Engagement with the Requirements of the Sequential Test

National policy as articulated in the National Planning Policy Framework (NPPF) (as amended December 2024) and the Overarching National Policy Statement for Energy (EN-1) demands that new development, including NSIPs, must be directed away from areas at risk of flooding where reasonably available alternatives exist. The primary function of the Sequential Test is to ensure that new development is guided first to sites at the lowest risk of flooding before other considerations are invoked.

The Applicant's argument that a large, contiguous, flood-prone site is the only deliverable, grid-convenient, and policy-compliant solution does not withstand scrutiny. The unified desk-based modelling we have conducted demonstrates conclusively that a network of alternative sites—some previously proposed by the Applicant and then discounted without detailed technical assessment—offer a superior solution on every relevant measure. Dismissing these alternatives for "not meeting the development objectives," "extended grid connection distances," or "lack of immediate availability" constitutes a misapplication of the Sequential Test and is inconsistent with best practice, Inspectorate guidance, and recent case law.

Footnote 2: NPPF §175, EN-1 §5.8.11, and latest case law underscore the imperative for avoidance of flood risk as a first principle, requiring actual, technical evidence to justify discounting alternatives.

3. Key Technical Findings from the Unified Desk-Based Modelling

With reference to the 'Evaluation' report and detailed supporting technical appendices, a fully costed, scenario-modelled comparison was undertaken, incorporating robust GIS spatial analysis, agricultural land classification, cumulative environmental effects, and financial modelling, benchmarked to standard NSIP development finance metrics. The following findings are salient.

3.1. Environmental Impact

- Flood Risk: The alternative site constellation, being exclusively outside Flood Zones 2 and 3, presents an order-of-magnitude reduction in both direct and residual flood risk,

as validated against Environment Agency datasets and current surface water/floodplain mapping. This removes the reliance on complex technical mitigation, residual risk management, and the necessity for Exception Test procedures, which should only be employed as a genuine last resort.

- Biodiversity/Protected Habitats: Desk-based ecological appraisal identifies that the AP11–NWT3 parcels are generally of moderate to low existing biodiversity value, with avoidance of river corridors and sensitive semi-natural habitats, reducing the need for extensive compensation and ecological offsetting compared to the floodplain site.
- Local Environmental Quality: Spatial comparison reveals that the alternative constellation avoids encroachment on sensitive areas near existing villages, improves the setback from residential receptors, and facilitates more effective landscape mitigation and buffering approaches.

Footnote 3: Unified Desk-Based Modelling Technical Companion Document, Sections 2 and 4 (Environmental Metrics Summary).

3.2. Flood Risk and Regulatory Compliance

- Passage of the Sequential Test: The constellation of alternatives provides a solution that is compliant with the Sequential Test, in stark contrast to the floodplain proposal, which can only proceed under Exception Test and through claims of “engineered mitigation.”
- Cumulative Flood Risk: Unlike the floodplain site, which, in combination with other NSIP developments around the High Marnham node, could “lock in” region-wide increases in peak runoff, the alternative arrangement avoids coalescence of flood-inducing land uses and reduces regional exposure to surface and fluvial risk.

Footnote 4: See ‘Requirement for Catastrophic Flood Risk Modelling' (Fox, S., 2025), which further substantiates that conventional flood modelling at the floodplain site is inadequate due to systemic, aggregation-related underestimation of real risk.

3.3. Best and Most Versatile (BMV) Land

The modelling demonstrates that the AP11–NWT3 sites intersect significantly less BMV land (ALC Grades 1-3a) than the current preferred site, which would result in the “removal” (in functional terms, for 60+ years) of ~34% of surveyed BMV soils, in direct conflict with NPPF and Natural England policy, and without a transparent ranked alternatives assessment.

Conversely, the alternatives contain a lower proportion (by at least half) of grades 1 and 2 land and can be sited entirely within grade 3b or poorer soils, bespoke to local BMV mapping and compatible soil management plans.

Footnote 5: Agricultural Land Classification Technical Note submitted as Appendix C to the Unified Evaluation; see also BSSS guidance (2022) and CPRE critique (2025) for methodology review.

3.4. Grid Connection and “Contiguity” Concerns Challenged

While the Applicant has asserted that dispersed alternatives imply excessive grid connection losses, the actual loss/cost differential for modern 132kV/400kV connections over incremental distances is marginal, and is more than compensated for by reduction in mitigation and engineering costs at non-flooded sites.

The Applicant's own Addendum Table (EN010159/APP/9.26, Section 3.1.7) acknowledges that power losses for an increase of 10km are less than 0.04%, with a direct cost of approximately £40m per 10km—costs that, in our financial modelling, are significantly outweighed by savings on infrastructure robustness, insurance, and reduced flood remediation liabilities.

Industry best practice (Solar Energy UK, 2024) supports the viability of non-contiguous NSIP-scale solar developments and recognises that clustering around a single node is not a legal or technical requirement, provided the total capacity can be exported in aggregate.

Footnote 6: See Technical Report Section 6 (Grid, Electrical, and HV Route Modelling) for details.

3.5. Financial Performance: Comparative Internal Rate of Return

- Lower capitalised flood mitigation cost (zero for non-flood alternatives vs £70m+ for comprehensive, engineered mitigation at the current site).
- Lower insurance, lower catastrophic risk reserves, and, crucially, a superior Internal Rate of Return (IRR) over the 60-year project life, by circa 1.5–2.5 percentage points, once the differential exposure to flood risk and BMV land opportunity cost is included.
- When the projected cost of catastrophic failure (including catastrophic flood event, forced decommissioning, BESS contamination, and uninsurable downtime) is included, the alternative sites are decisively more resilient and financially justifiable, with increased institutional legitimacy and a simpler pathway to insurance and funding approval.

Footnote 7: See Full Financial Model and Expanded Cost-Benefit Analysis, September 2025.

4. Addressing the Applicant's Claims in the Sequential Test Addendum (EN010159/APP/9.26): Evaluation of the "No Alternatives" Argument

The Applicant asserts, most baldly in Section 2.1.3 and 3.1.3 of EN010159/APP/9.26, that "no reasonably available alternative sites at lower flood risk (or indeed any alternative sites) have been identified by any of the LPAs or other interested parties," and further that no alternative "could deliver the same capacity… by the grid connection date in 2029". My evidence, compiled both from genuine alternatives first identified by the Applicant and from further site analysis, demonstrates that these claims are demonstrably incorrect.

4.1. False Dichotomy of "Contiguous or Nothing"

The insistence on a single, contiguous, immediately available parcel is a self-imposed constraint not supported by either policy or technical best practice; the NSIP regime and NPPF/EN-1 guidance require proportionate, evidence-led consideration of all available alternatives, including distributed scenarios, as is now routine in large-scale solar development in the UK and continental Europe.

4.2. Availability and Deliverability: Unjustified Discounting

The claim that alternatives were not "available" is unsupported by published landowner engagement evidence; moreover, staged voluntary acquisition and, if required, phased compulsory purchase, are standard and policy-justified routes in NSIP delivery, not legitimate grounds to ignore otherwise superior sites.

4.3. Capacity and Timing

Scenario planning shows that incorporation of all or most parcels originally identified (AP11–NWT3) can, in aggregate, deliver equal or greater generation and BESS capacity for connection by 2029 (now 2031 according to latest National Grid publications), subject to a properly managed and parallel-programmed delivery model, as routinely employed in other NSIPs. The assertion that "timing" renders alternatives undeliverable is unsustainable in the absence of project scheduling evidence and a robust alternatives analysis.

Footnote 8: See Section 8 of the Unified Evaluation for critical path analysis and parallel delivery schedule benchmarking.

4.4. Sustainability, Cost, and Policy Alignment

As the financial and catastrophic risk analysis documents, the "constellation" solution is more sustainable, less costly overall, and more robustly aligned with all applicable planning and policy standards. The repeated reliance on "mitigation" over appropriate site selection runs counter to the letter and spirit of the NPPF and to recent Inspectorate advice, which stresses the primacy of avoidance over mitigation in the siting of essential infrastructure in flood-prone landscapes.

5. Failing to Take a Holistic and Integrated View: Critique of the Applicant's Technical Responses

Holistic evaluation is a mandatory underpinning principle in the examination of NSIP projects. The Applicant's fragmented approach—assessing each impact, risk, and land parcel in isolation, and systematically narrowing the area of interest to suit a pre-selected conclusion—represents a procedural and substantive failure. The technical responses exhibit the following limitations:

- Lack of Cumulative Impact Modelling: No credible attempt has been made to model the aggregate and catchment-wide flood risk implications of consecutive NSIP installations at and around High Marnham. The regional "clustering" issue is left unaddressed or discounted as too complex, when the evidence base and policy context demand a solution.
- Failure to Integrate Sustainability Factors: The technical appraisals do not consider the combined, long-term impact of land loss, flood risk, landscape visual impact, biodiversity effects, or BESS risk in an integrated way—a clear departure from EIA good practice and NSIP examination precedent.
- Insufficient Agricultural Land (BMV) Appraisal: The approach to ALC and BMV land protection in the Applicant's submissions is perfunctory, omitting robust comparative ALC data for alternatives, dismissing the significance of long-duration land loss, and not engaging thoroughly with up-to-date government, CPRE, and BSSS guidance.
- Insufficient Financial Disclosure: Assertions of cost without full, transparent modelling, and a failure to account for differential insurance, contingency, and remediation costs, leave the "whole scheme analysis" incomplete.

6. Reference and Endorsement of the 'Forensic Critique of the One Earth Solar Farm Site Selection Rationale'

The recent forensic review ('Forensic Critique of the One Earth Solar Farm Site Selection Rationale: A Case of Speculative Siting') offers additional weight to this submission, with its detailed critique of the Applicant's approach, failure to evidence-landowner constraints, and lack of meaningful alternatives appraisal. The report finds, in summary:

- That the Applicant's rationale is "reverse-engineered" to justify a preferred, legacy grid connection, rather than founded upon a comprehensive, policy-led assessment of clustered risk, alternative site delivery, and costed mitigation.
- That omission of stakeholder challenge—evidenced in meeting minutes and public representations—demonstrates a significant procedural integrity risk.
- That the consultation process appears to have been sanitised to support the status quo, contradicting both local authority LIRs and public representations lodged with the Examination Library.

7. Conclusion and Request to the Examining Authority

7.1. Substance for the Examination

We respectfully request the ExA to give substantial weight to the evidence and analysis summarised herein and to subject the Applicant's Sequential Test, alternative site evaluation, and stated rationale to the strictest scrutiny. There is clear, objective evidence that a distributed alternative—identified but then rejected by the Applicant—can deliver the full technical, environmental, and financial objectives at lower risk, lower cost, and with far greater policy conformity on all core NSIP metrics.

7.2. Testing of Applicant's Technical Responses

We urge the ExA to test all technical responses from the Applicant against the standards of holistic and integrated assessment, requiring unambiguous explanation and transparent data for all key conclusions. The examination should require robust, point-by-point response to the alternative scenario set out in the 'Unified Evaluation' and 'Forensic Critique' papers.

7.3. Correction of Disingenuous Claims

Finally, the categorical claim, in the Sequential Test Assessment Addendum, that "no alternative has been identified that can deliver the required power outside the flood zone" is, in the totality of the evidence, disingenuous and unsustainable. The 'constellation alternative' was available, tested, and modelled, and has consistently been shown to be superior on every critical metric.

8. Formal Requests

Accordingly, we formally request that the Examining Authority:

- Direct the Applicant to respond point-by-point to the evidence and detailed alternative scenario presented in the Unified Evaluation and Forensic Critique papers, including:
- A transparent, fully referenced assessment of AP11, AP12, CL1–CL4, LAX1–LAX3, NWT1–NWT3 as a deliverable alternative constellation.

- Comparative modelling on all principal risk and impact criteria: environmental, financial, flood, BMV, and grid.

Require publication of the Applicant's full technical and financial modelling to permit external audit and benchmarking as part of the open examination process.

Apply the highest evidential standard to the Applicant's stated rationale for discounting alternatives, especially where "availability", "timing", or "contiguity" are invoked, in line with the requirements of the NPPF, EN-1, and Inspectorate practice note.

Ensure that the holistic, catchment-scale, and cumulative impacts are considered in the round, so as not to expose local communities or national infrastructure resilience to systematically underestimated risk.

9. Closing

In summary, the Applicant has failed to meet the evidentiary and procedural burden required by the NSIP consenting regime and the NPPF, particularly in relation to the Sequential Test and the diligent, transparent evaluation of alternatives. The evidence provided by independent, desk-based, costed modelling compellingly demonstrates the technical and policy superiority of a constellation of alternative sites. We urge the Examining Authority to fully interrogate and take this evidence into account in its report and recommendation, and to reject any technical response from the Applicant that falls short of holistic, integrated, and transparent assessment.

Yours faithfully,

Stephen Fox

BA MSc

Footnotes

1. Sequential Test Assessment Addendum (EN010159/APP/9.26), Sections 4.1–4.2, Table of Alternative Sites, One Earth Solar Farm Ltd, September 2025.
2. 'Forensic Critique of the One Earth Solar Farm Site Selection Rationale: A Case of Speculative Siting', September 2025.
3. Unified Evaluation Desk-Based Modelling: Technical Companion, Section 2 – Environmental Metrics Summary.
4. 'A Cost-Benefit Analysis of the One Earth Solar Farm (EN010159): An Assessment of Economic Viability in the Context of Cumulative and Catastrophic Flood Risk', Stephen Fox, September 2025.
5. Agricultural Land Classification Technical Note, Unified Evaluation Appendix C; British Society of Soil Science (BSSS), CPRE critique, February 2025.
6. EN010159/APP/9.26, Section 3.1.7, Power loss and cable cost summary; Solar Energy UK Site Selection Factsheet (2024).
7. Unified Evaluation, Financial Model, Section 7, Expanded Cost-Benefit Analysis, September 2025.
8. Unified Evaluation, Section 8, Critical Path and Delivery Schedule Analysis.
9. National Planning Policy Framework (NPPF, December 2024), EN-1 §5.8.11, latest Inspectorate guidance on avoidance first principle.
10. Local Impact Reports (LIR) from Bassetlaw District Council (July 2024), West Lindsey District Council, and Newark and Sherwood District Council, 2024.

11. Planning Act 2008, Section 104; EN-1 and EN-3; National Infrastructure Planning Guidance.
12. Planning Inspectorate Advice Note One, Local Impact Reports (March 2025 edition).
13. Planning Inspectorate Example NSIP Documentation, Case Examples, 2024/25.
14. Environment Agency, Natural Flood Management Evidence Directory, February 2025.
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