

From: [REDACTED]
To: [One Earth Solar](#)
Subject: FORMAL REQUEST FOR RULE 17 ACTION – FAILURE TO PROVIDE CRITICAL FLOOD RISK MITIGATION CALCULATION DATA
Date: 17 November 2025 17:12:18
Attachments: [Applicant's response regarding the calculation of mitigation for solar panel runoff.docx](#)

To the Examining Authority

One Earth Solar Farm

Project Reference: EN010159

From Stepen Fox

Interested Party Reference [REDACTED]

SUBJECT: FORMAL REQUEST FOR RULE 17 ACTION – FAILURE TO PROVIDE CRITICAL FLOOD RISK MITIGATION CALCULATION DATA

Dear Sir or Madam,

Reservation of Rights (Litigant in Person)

This submission is made under **explicit protest** and strictly **without prejudice** to the Interested Party's right to challenge the lawfulness and procedural integrity of the Examination.

The Interested Party's continued participation is legally **compelled** by the statutory process (Planning Act 2008) to maintain standing, but this action does **not** constitute a waiver, acceptance, or validation of any alleged procedural impropriety, ExA bias, unlawful censorship, or fundamental flaws in the Administrative Record.

All rights to seek Statutory Appeal and Judicial Review against the final Development Consent Order decision are fully reserved.

This letter serves as a formal request and the supporting submission attached, pursuant to **Rule 17 of The Infrastructure Planning (Examination Procedure) Rules 2010**, for the Examining Authority (ExA) to issue a request for further information from the Applicant, One Earth Solar Farm Ltd, relating to the methodology for calculating surface water runoff mitigation.

The information currently provided by the Applicant is wholly inadequate, fundamentally jeopardising the ExA's statutory duty to assess the compliance of the Proposed Development with national flood safety requirements.

1. Context and Defiance of ExA Instructions

During Issue Specific Hearing 3 (ISH3), the Applicant was given an action point to **explain** the calculation of mitigation needed to address solar panel runoff, following a request from S. Fox.¹

The Applicant's response, contained within the *Written Summary of Oral Submissions at ISH3*¹, was not an explanation but a procedural instruction, merely directing the ExA and interested parties to **Section 4 of the Flood Risk Assessment and Outline Drainage Strategy (FRA/ODS)**.¹ This response constitutes a **direct instance of defying the ExA's instruction** to explain the calculation, instead substituting a procedural reference for a substantive answer.

This is patently insufficient, as it fails to place the definitive calculations and critical model parameters on the formal examination record in a transparent manner, which is consistent with a broader pattern of procedural non-compliance throughout the examination.

2. Central Failure to Satisfy the Exception Test

The lack of a transparent, verified calculation methodology directly impedes the ExA's ability to determine if the development is safe and lawful.

The Proposed Development, classified as essential infrastructure within a high-risk flood zone, must meet the **Exception Test**.² The second limb of this test requires a conclusive demonstration that the project **"will not increase flood risk elsewhere"**.² The mathematical evidence for this claim rests entirely upon the integrity of the runoff calculation and the resulting adequacy of the designed attenuation storage volume.

Without the specific technical inputs and outputs demanded below, the ExA cannot verify the Applicant's claims, and therefore cannot confirm that the statutory safety threshold required by the Exception Test is met.

3. Technical and Scientific Inadequacy

The Applicant's reliance on standard UK hydrological methods for calculating the Greenfield baseline (Q_{bar}) is inadequate because it fundamentally fails to model the specific, high-energy impact of large solar arrays.

- Academic research (Baiamonte et al.) has demonstrated that PV arrays act as "disconnected impervious surfaces," which can increase peak discharge by up to **11 times** compared to natural ground.⁴
- This concentrated, high-energy runoff risks overwhelming the Applicant's proposed basic mitigation features (e.g., grass cover) ¹ and causing severe erosion and increased off-site flood risk.
- The Applicant's general reference to the FRA/ODS fails to demonstrate how their model specifically integrates this high-risk factor via an appropriately adjusted post-development runoff coefficient (C_s).

4. Demand for Rule 17 Action

We respectfully submit that the matter is now so fundamental to the safety and legality of the Proposed Development that the ExA must exercise its powers under Rule 17.

We formally request that the ExA requires the Applicant to submit, as an urgent priority and within a specified deadline, a dedicated, standalone **Technical Note on Runoff Mitigation Calculation**, providing conclusive, verifiable detail on the following core components:

Required Information	Rationale
Post-Development	The precise coefficient values applied to the PV array areas, justified by how they explicitly model the accelerated,

Runoff Coefficients (\$C\$)	concentrated flow from solar panels (i.e., accounting for the "disconnected impervious surface" effect).
Attenuation Volume Calculation	The specific calculations demonstrating how the required storage volume for all attenuation features was derived from the calculated post-development peak flow (Q_{post}) for 1-in-100 year events plus climate change allowance. ³
Compensatory Storage	A verified methodology for calculating and securing level-for-level compensatory flood storage volume for any area of the functional floodplain lost to infrastructure (e.g., inverters), directly addressing the Environment Agency's previous concerns. ¹

Failure by the Applicant to provide this essential, auditable information would confirm that the ExA has been denied the necessary evidence to conclude that the Exception Test is satisfied. We urge the ExA to issue this Rule 17 request immediately to ensure the integrity and safety of the examination process.

Yours faithfully,

Stephen Fox

Applicant's response regarding the calculation of mitigation for solar panel runoff

Reservation of Rights (Litigant in Person)

This submission is made under **explicit protest** and strictly **without prejudice** to the Interested Party's right to challenge the lawfulness and procedural integrity of the Examination.

The Interested Party's continued participation is legally **compelled** by the statutory process (Planning Act 2008) to maintain standing, but this action does **not** constitute a waiver, acceptance, or validation of any alleged procedural impropriety, ExA bias, unlawful censorship, or fundamental flaws in the Administrative Record.

All rights to seek Statutory Appeal and Judicial Review against the final Development Consent Order decision are fully reserved.

This submission addresses the Applicant's response regarding the calculation of mitigation for solar panel runoff, asserting that the strategy of directing the Examining Authority (ExA) to the Flood Risk Assessment (FRA) and Outline Drainage Strategy (ODS) is **totally inadequate, misleading, and disingenuous** as a fulfilment of the ExA's action point.

The inadequacy stems from the Applicant providing a procedural reference in place of a substantive explanation, and the fundamental disconnect between the stated standard hydrological methodology and the specific, high-risk impacts of large-scale photovoltaic (PV) arrays on flood risk.

1. Evasion of the Direct Request: Procedural, Not Substantive

The Applicant's response to S. Fox was not an explanation of the calculation methodology, but a post-hearing note directing parties to Section 4 of the FRA/ODS.¹

- **Inadequate:** The ExA, following stakeholder concerns, requested the Applicant to **explain** how the mitigation was calculated. An explanation requires detailing the fundamental components: the *post-development* runoff coefficient (C) applied to the PV array area, the chosen design storm return periods, and the resulting required attenuation volume. The Applicant failed to provide these critical figures on the record of the hearing summary.¹

- **Disingenuous and Patterned Non-Compliance:** By directing scrutiny toward a voluminous appendix (such as Appendix A8 or 4C of the FRA/ODS) ², the Applicant defers detailed public examination of the core technical data underpinning flood safety. This refusal to provide a transparent, readily digestible summary explanation is consistent with a broader pattern of procedural delay and failure to provide substantive clarity throughout the consultation and examination process. The summary document itself confirms that the detailed methodology is *not* present in the oral submissions ¹, forcing interested parties to conduct deep and complex technical due diligence across multiple linked documents simply to verify the Applicant's claim of compliance.

2. Technical Deficiency in Mitigating Concentrated Runoff

The reliance on standard UK hydrological practice, while compliant for establishing the Greenfield baseline, fundamentally fails to address the unique, scientifically validated hydrological effects of large PV arrays.

- **Misleading:** The methodology used for the Greenfield runoff rate (Q) is based on the Institute of Hydrology Report No. 124 (IH24) ², which is the mean annual flood flow from a *rural catchment*. While necessary, this calculation does not define the *post-development* runoff rate (Q) accurately under the solar panels.
- **Scientific Conflict:** Research by Baiamonte et al. demonstrates that PV arrays act as "disconnected impervious surfaces," causing concentrated overland flow and increasing peak discharge by up to **11 times** compared to bare soil hillslope. This severe acceleration of flow energy creates a high risk of "splash erosion" and "decreasing permeability" at the panel outlets, leading to rill and gully formation, regardless of grass cover. For the avoidance of doubt the experiment established that causality to be exclusively the result of the solar panel and not the hillside or ground cover.⁵
- **Inadequate Mitigation Strategy:** The Applicant's confirmation that mitigation relies on maintaining a "**robust grass cover**" beneath panels ¹ is contradicted by the science, which shows that high-velocity, concentrated runoff from the glass panels will overwhelm vegetative measures.⁵ The mitigation calculation must specifically account for the hydraulic energy of this concentrated flow, not merely the attenuated volume.

3. Undermining the Exception Test: The Core Regulatory Failure

The failure to provide a transparent, detailed explanation of the mitigation calculation is not merely a procedural oversight; **it is central to the Examining Authority's ability to assess the Exception Test.**

- **Exception Test Requirement:** The Proposed Development is classified as 'essential infrastructure' and is located in high-risk flood zones, requiring compliance with the Exception Test. The second limb of this test demands assurance that the development will be safe for its 60-year lifetime and **will not increase flood risk elsewhere.**

- **Assessment Impaired:** The calculation of the required attenuation volume is the sole mathematical guarantor against increasing off-site flood risk. An undocumented, unverified, or inadequately justified calculation (especially one that ignores the documented impacts of concentrated runoff) prevents the ExA from conclusively confirming that the statutory safety threshold—the core component of the Exception Test—is met. This fundamental deficiency jeopardizes the ExA’s capacity to recommend consent.

4. Failure to Address Critical Regulatory Concerns

The Applicant's generalized reference to the FRA/ODS also avoids specifically addressing the Environment Agency (EA)'s substantive concerns already raised on the record:

- **Flood Plain Compensation:** The EA's Deadline 4 submission specifically noted that the loss of flood plain area due to infrastructure, such as **inverters**, is difficult to compensate for.¹ The Applicant's reference to the FRA/ODS does not clarify whether the calculation methodology for compensatory *level-for-level storage*—a volume calculation separate from the rate calculation—has been adequately provided and verified, particularly concerning the predicted impacts of climate change over the 60-year lifespan.³

In summary, the Applicant's formal submission is **inadequate** because it lacks the core data necessary for scrutiny; **misleading** because it relies on standard methodologies that **are patently insufficient** to model the scientifically confirmed effects of concentrated runoff from solar panels; and **disingenuous** because it uses a procedural directive to avoid providing a transparent and substantive technical explanation, thereby undermining the ExA's ability to discharge its statutory duty to assess the Exception Test.

Footnotes

1. The Applicant’s confirmation regarding reliance on “robust grass cover” is referenced from the planning submission.
2. Institute of Hydrology, Report No. 124 (IH24): Flood Estimation for Small Catchments, Wallingford, 1994.
3. Environment Agency (EA) Deadline 4 submission, highlighting flood plain compensation and climate change considerations.
4. Baiamonte, G., De Santis, V., Ferro, V. et al. “Hydrological response of a sloping terrain under photovoltaic panels: Runoff and erosion processes.” Hydrological Processes, 2022.
5. Experimental findings attributing increased runoff and erosion solely to the presence of solar panels, not hillside or ground cover, as reported by Baiamonte et al., 2022.