Submission ID: S32932E9D

I am submitting two representations on relating to the Preliminary and Open and Issue Specific meetings and a second relating to the project as a whole and the Flood Risk Assessment.
Stephen Fox
Resident of North Clifton
Summary representation regarding the proposal as a whole.
The conduct of the One Earth team has been dishonest in the way they have conducted their consultations, and in the Consultation Report to an extent that renders them unfit to be granted approval to provide a National Infrastructure project.
See my submission regarding the Preliminary Meeting, Open Meetings and Issue Specific Meetings.
The proposal is prepared on the well-known technique of studying the requirements of the examination and then providing the answers needed to pass it irrespective of facts and only including research that supports the proposal and ignoring that which gives a contrary view. For example, research regarding flood risk and soil degradation as detailed in my comments on the FRA below and in maintaining that there is no research that indicates that the destruction of an environment will not have an impact on local house and property prices when answering the local community queries.
The project fails to take account of current science, and the modelling provided is inadequate and ignores the guidance provided by the Environment agency regarding third party use of its modelling.
The purpose of the Overarching National Policy Statement for Energy EN1 section 5.8 is to steer national infrastructure developments away from flood plains. An exception test is provided for use in exceptional cases where the benefits claimed for the proposal cannot be had by choosing a location other than on a flood plain. Consequently, before the One Earth proposal can be approved it must first demonstrate that the benefits of providing green energy cannot be had by proposing their development on an alternative site which is not a flood plain.
It is for the proposal to demonstrate that connecting at High Marnham is a necessary condition for providing green energy before use of the exception test to justify building on the flood plain can be considered. They have not done this. Consequentially the proposal should not be approved.
The availability of a connection to the national grid at High Marnham is not necessary or sufficient reason to justify building on the flood plain unless all alternatives to provide green energy to the level that the proposal will provide have been explored, and it has been demonstrated that it is the most cost-effective way of making such a provision. This the proposal does not do.
Even if it was accepted that the availability of the connection at High Marnham was a necessary starting point (which it is not), the proposal could only be justified using the exception test if a full quantified cost benefit analysis of the proposal compared to the possible alternative sites was presented. The benefits of providing green energy would be excluded from such a comparison as they are not unique to the site. There is no limitation on the distance that the sequential search for an alternative site should involve. The only limitation would be the relative cost of the alternatives. No such cost benefit analyses have been provided so the proposal cannot be properly evaluated. Qualitative arguments alone are not sufficient. This is101 economics.
No connection to the National Grid at High Marnham is presently and , and there is a probability that one won't be available any earlier than elsewhere.
It is for the proposal to demonstrate that connecting a High Marnham is a necessary condition for providing green energy before use the exception test to justify building on the flood plain can be considered. This they have not done.
Both the first and second elements of the exception test have not been past.
Representation regarding Document Reference: EN010159/APP/6.21 Revision 01Volume 6.0 Environmental Statement [EN010159] Volume 3: Technical Appendices Supporting ES Volume 2 Appendix 7.2: Flood Risk Assessment (FRA) and Outline Drainage Strategy February 2025.
When asked at a meeting on 1st August 2024 what the incremental flood risk of the project to the local community was forecast to be the author of the assessment replied with "well there won't be any more water". This attitude has been carried forward into the way in which the FRA has been prepared and presented.
In paragraph 4.2.1 of the FRA, and throughout the proposal, Wallingford Hydro Systems are used as an absolute authority that solar farms do not result in significant increases in run off when there are properly modelled scientific papers readily available that clearly demonstrate that solar panels increase volumes of run off, increase peak run off by 11 plus times and increase the speed of run off by between 2 and 3 times.
See for example
(https://onlinelibrary.wiley.com/doi/10.1002/hyp.15053 Hydrological Processes Volume 37, issue 12, December2023).
(https://www.researchgate.net/publication/362427501_Evaluating_the_potential_impacts_of_solar_farms_on_hydrological_responses#:~:text=area and studied multiple scenarios,models that can accurately)
(En3 is out of date in this respect and should be revised).
This calls into question the claims and assumptions regarding soil, in addition to those made regarding flooding, made in the proposal
On a project of the size proposed to be built on a flood plain, One Earth should be taking a scientific approach and not relying on outdated received wisdom.
There is no attempt to model the incremental impact of the project, which reflects its scale, or of the cumulative effect of the proposed project and the 5 others, of similar size in the Trent Vally area, on the flood risk to the communities in the Trent Valley and beyond.
There is no attempt to model the impact of the proposal when surface water flooding and river flooding coincide which has happened twice in the North and South Clifton Areas in 2000 and 2024.
A significant element of the surface water flood risk to North Clifton from the proposal has been excluded. See Mrs Sheila Pumfry's submission to the Inspector.
On a project of this size, compounded by numerous similar projects in the catchment area of the river Trent and the geographical area of the Lincolnshire and Nottinghamshire reaching as for as Sleaford in Lincolnshire, extensive research should be conducted on the wider implications of the research and modelling referred above before the project is approved.
The implications of the additional volumes of runoff, increase in peak run off and increase in speed of run off are not fully

understood but the potential for downstream flooding from the solar farms are substantial given the scale of projects under consideration.
The Environment Agency states, on their website, that whilst their flood risk modelling is the best available, it is not to be used by 3rd party developers as suitable for their proposals and developers should conduct their own modelling.
“Environment Agency models are not designed to assess third party developments, so do not assume that they are suitable for your proposed development/ even if you use a recent model, you still need to review and possibly update it/ you should provide evidence of any modelling checks and subsequent updates you carry out and record these in the/FRA/model reporting”
The models available are out of date and not suitable for properly evaluating the proposal and it is up to One Earth to have the modelling commissioned from independent third parties before the risk of approving this project (and any further projects) is taken.
5.8.15 of EN1 requires that FRA’s be undertaken by competent people. Failure to use UpToDate models and to take account of UpToDate science suggests that this proposal falls foul of 5.8.15 of En1.
When considering 2.1 of the FRA recourse should be taken to reading 5.8 of EN–1. The latter is designed (5.8.6) to steer developers away from building in high flood risk areas whereas the former seeks to bend its purpose to be that of justifying the building of projects in flood risk areas.
The FRA fails to consider the flood risk to the local community and simply focusses on the flood risk to the project. There is no quantification of the incremental flood risk to the local community or the timing of such incremental changes. This is contrary to 5.8.6 of EN1.
The project should not be being proposed on the flood plain when there are ample suitable sites in the UK for such projects that will provide similar benefits in terms of transitioning to green energy, without involving construction on a flood plain. There is no requirement for the project to be localised as proposed to achieve the benefits claimed for the wider community. Consequently, the project is in breach of 5.8.7 of En1. Why is it necessary to locate it in the proposed location? The word necessary implies an absolute need to location as proposed. This clearly is not the case. The benefits of the project are green energy from solar. These benefits can be had by building the project in any area of the county where there is low flood risk. Further, building on a high-risk flood area not only needs to be necessary but it has to be exceptionally necessary, which must be a stronger test. It cannot be the latter if it isn’t necessary in the first place.
5.8.8 of En1 requires that this project proposal be rejected by the inspector unless all alternative sites within Great Britain which could provide similar benefits in low flood risk areas have been examined and rejected.
No proper attempt appears to have been made to make a case as to why the project should be located as proposed. The statement that the proximity of the High Marnham national grid connection is the governing factor for the location of the project would appear to be misleading as One Earth have not secured agreement for such a connection. Even if they had such an agreement, a justification would require a comprehensive cost benefit analysis of the proposed project compared to alternatives proposals that do not involve locating solar panels at scale on a flood plain. It would be incumbent on One Earth to provide a comparison with building such a project on every possible site in the UK that is not a flood plain. Only if it was shown that the project had clear benefits to the wider community, which the alternatives do not have, should consideration of sequential and exceptional tests become relevant. Such benefits should have their value quantified as qualitative statements are insufficient to justify the risks to the local and wider communities.
The benefits of the building on a flood plain need to be unique to the site to be exceptional for the project to be justified under the exceptional test. The benefits cannot be unique and exceptional if they can be had by building elsewhere.
For the High Marnham connection to be a governing factor a comparison of the cost of securing an alternative connection would need to be presented, e.g. by expediting the expansion of grid capacity away from the flood plain.
Under 5.8.9 of EN1 in the absence of the definition of “possible” it must be taken as meaning capable of existing, happening, or being done as per the Oxford English Dictionary. Consequently, it is clearly possible to locate the proposed project elsewhere. There is no justification for even considering the sequential test in the context of One Earth’s proposal.
The purpose of the “Application of the sequential approach in the plan-making and decision-making process will help to ensure that development is steered to the lowest risk areas, where it is compatible with sustainable development objectives to do so, and developers do not waste resources promoting proposals which would fail to satisfy the test”. One Earth are attempting to use the sequential and exceptional tests to steer their project to the flood plain. This developer is wasting its own resources and those of the Inspectorate, the local authorities and the local community.
5.8.9 requires the developers to search for alternatives for their proposal and there is no limit to the extent of the search area.
Referring to 5.8.11 of EN1, this project does not provide any sustainable benefits to the local community or to the wider community that cannot be obtained by locating it elsewhere so the claimed benefits cannot outweigh the flood risk.
It has not been demonstrated that the project will not increase the flood risk locally or elsewhere. There are lots of statements of “it is considered that” without any attempt to substantiate the claims with new and up to date modelling which show not only the impact of the proposal but of similar projects which are in or impact on the Trent Vally drainage flows.
5.8.12 and 5.8.15 of EN1 require that the flood risk arising from the project should be considered. The proposal fails to do so. The volume of runoff will increase; peak runoff rates will increase by 11plus time and speed of run off by between 2 and 3 times greater. (seehttps://onlinelibrary.wiley.com/doi/10.1002/hyp.15053 Hydrological Processes Volume 37, issue 12, December2023). This will likely dramatically increase the chances of North Clifton flooding. (See for example Mrs Sheila Pumfrey’s submission to the Inspectorate).
5.8.15 requires the FRA to Consider and quantify the different types of flooding (whether from natural and human sources and including joint and cumulative effects) and include information on flood likelihood, speed-of-onset, depth, velocity, hazard and duration. The work in the FRA is in adequate and out of date.
(seehttps://onlinelibrary.wiley.com/doi/10.1002/hyp.15053 Hydrological Processes Volume 37, issue 12, December2023 and other similar papers.
2.6 of the FRA. Sequential and Exceptional Test.
The justifications offered for site selection using the Sequential and Exceptional test are both invalid because no connection has been secured at High Marnham and no benefits have been presented which are unique and exceptional to

the project. The comparative costs of costs of securing an alternative connection have not been presented. Quantitative statements alone will not do.
There is no limitation to the distance defined as being required for a sequential test which means that any site in Great Britain could be considered. Further, somewhere in Great Britain there is probably an available connection that will supply the claimed benefits without placing solar panels on a flood plain. The sequential test should not simply contain the qualitive statements alone used in 2. 1 of the FRA or in EN010159/APP/5.5 The very least that would be credible for ruling out an alternative location should be a quantitative comparison of the merits of each such alternative. There are well established techniques regularly used by government departments and well described in economic literature for performing such cost benefit analysis.
The exception test has not been past for this proposal as no benefits have been presented that are unique to placing the project on a flood plain so they cannot possibly outweigh the flood risk. Further, there is no proper and up to date modelling and quantification of the flood risk so that this can be properly assessed.
The second part of the exceptional test has not been past because it has not been demonstrated that it is safe for its lifetime or that it will not increase the risk of flooding elsewhere. Mitigation or use of words such as negligible are inappropriate because “not increase” means zero in the context of the exceptional test. Elimination of any flood risk is what is required.
The flood risk mitigation measures in the proposal are almost non-existent as they essential list what already exists and are entirely inadequate given that the met office saying that “extremes are the norm”. and the FRA provides no evidence that the development will not increase the flood risk. It has not been demonstrated the project doesn’t increase the flood risk locally or elsewhere.
Any structure in a flood plain reduces the amount of storage and water finds its own level so by definition building on the flood plain will increase the flood risk elsewhere. This is especially the case since the site covers each side of a flowing river.
Such structures become obstructions and will reduce the velocity of flow and hence will affect the degree of storage and attenuation within the flood plain.
No information is provided by the applicant regarding what has been done to evaluate the changes in flood protection resulting from the structures being built on the flood plain.
The panels in the flood plain will be subject to forces from the water. These will vary according to the flow rates. What studies have been made and what supporting calculations are available, and what return periods for the floods have been considered to ensure safety of the panels?
How have the panel’s anchorage been designed? What forces have been considered? What uplift forces have been considered for different return periods?
In flood conditions some panels may become detached. What assumptions have been made re the number of panels detached? What assumptions have been made with respect to increased turbulence in the area? What assumptions have been made with respect to impact damage and forces from floating debris?
If units become detached what precautions have been made to enhance the protection of flood control structures in the flood plain?
In the event of detachment of panels, on or near the flood plain, how will the damaged panels be recovered during peak flood, which can last an extended period, to prevent them causing local and downstream congestion and destruction which would have a multiplier effect in terms of enhanced to flood risk?
A total flood displacement of 618.1m squared by panel supports does not equate to zero and makes no allowance fencing and other additions and the impact of damaged panels during flood events. Further there will be a cumulative effect with the 5 other proposals in the area. Combined these could have a major impact on surface water flooding.
Where calculations have been performed, e.g. for the preparation of tables 3.2, who has checked the assumption and calculations made? How valid are the calculations in any event as One Earth have not finalised the structures to be constructed?
The local community unanimously refutes the suggestion that “The Proposed Development also delivers local community and biodiversity benefits through biodiversity net gain and environmental enhancements” and the statement simply goes to show how inadequate the consultation process was and how inaccurate The Consultant Report is.
One of the claimed biodiversity benefits is leaving existing hedgerows in place - the need to be so desperate as to include this as a benefit demonstrates that there are no real diversity benefits.
Section 4 is entirely inadequate as it relies on 4.1 which states “it is anticipated that surface water largely infiltrates to ground with any exceedance entering the land drains/ditches and watercourses”. The lack of an understanding of the up-to-date science requires that all the work presented in this section needs to be redone.
Section 4.2.1 is simply not credible and is out dated - see the first paragraph of this submission and https://onlinelibrary.wiley.com/doi/10.1002/hyp.15053 Hydrological Processes Volume 37, issue 12, December2023. Solar panels create an 11 times greater discharge rate and between 2 and 3 times increase in run off speed thereby dramatically increasing the risk of flood surges to the local communities and to the Trent Valley as a whole, if one considers the size of the proposed project area and the similar projects proposed in the Trent Valley area and throughout Lincolnshire and Nottinghamshire. This is especially relevant when Pluvial and Fluvial flooding coincide as in 2000 and 2024. Any increased flood risk could have resulted in properties that were on the verge of flooding being flooded. It also removes all credibility to the claim that the project will not increase the possibility of flooding on the site or elsewhere.
How will the disturbance to vegetation be minimised? The whole site will be churned. Such a claim is not credible.
How is disturbance of the vegetation to be minimised if the proposal is to remove and store the topsoil?
On what will the vegetation grow and if it does grow will it be as robust as pre the project? How long will it take to come back?
How will the vegetation be reestablished if the topsoil is removed?