

Ben Glover

North Hertfordshire District Council
Council Offices
Gernon Road
Letchworth Garden City
SG6 3JF

27 August 2026

Dear Mr Glover,

Flooding and Drainage

25/01947/FP: Battery Energy Storage System (BESS), ground mounted solar farm, associated infrastructure, access and landscaping

Land South of A507, near Cumberlow Green, Clothall Road, Clothall

On 17 February 2026, the Lead Local Flood Authority (LLFA) provided comments on the above application, setting out six issues with the application.

The Applicant is pleased to be able to provide responses below to each of the issues raised by the LLFA.

1. An infiltration test, undertaken in accordance with BRE 365 standards, is required to establish the feasibility of infiltration at the Site. In the absence of such testing, a conservative infiltration rate of 1.0×10^{-6} m/s must be adopted as a worst-case scenario. All storage requirements and drainage conveyance calculations are to be based on this assumption.

Response: Infiltration testing at four locations within the BESS and substation area of the Site was carried out in April 2026. These indicated that the use of soakaways for the discharge of surface water is practical, subject to detailed design. An updated Flood Risk Assessment and Sustainable Drainage Strategy (the 'FRA'), reference 6437-JPG-XX-XX-RP-D-0620-S2-P08, including the results of the infiltration testing, is submitted along with this letter.

2. The Site lies within Source Protection Zone 3, which represents the lowest risk to public water supplies. However, the presence of numerous private supplies means that Source Protection Zone 1 considerations may also apply. Further detail must therefore be provided on interception measures, the formal drainage of roads, and the incorporation of source control techniques, such as permeable surfacing, where feasible, without increasing the risk of groundwater pollution.

Response: The Applicant's searches have not indicated the presence of private water supplies in proximity to the Site and therefore does not consider that SPZ1 considerations are relevant. However, for the principal potential sources of ground water contamination, namely the BESS compound and the substation, the drainage strategy incorporates a lined granular storage layer, shut-off valves and dedicated containment of potentially contaminated firewater prior to infiltration, ensuring pollutants cannot enter the surface water drainage system. This approach has been generally accepted as providing adequate protections from ground contamination on other projects of this nature. The internal roadways within the Site will be very lightly trafficked and are not considered to present a risk of groundwater pollution. Drainage measures for roadways/tracks are assessed in the FRA at Section 6.6 on the basis of the detailed drawings presented in Appendix C.

3. A site-specific water quality assessment is required for runoff from the battery storage and substation areas, as this cannot be adequately evaluated using the Simple Index Approach (Chapter 26 of the SuDS Manual). Road runoff, particularly during the construction phase, must also be assessed. Consultation with the Environment Agency may be necessary.

Response: Section 6.7 of the FRA has been updated to set out the Applicant's position that the Simple Index Approach is appropriate and proportionate for the Proposed Development. The BESS and Substation areas will not see activities involving the regular handling of pollutants. Potential sources of pollution are limited and be controlled through drainage design and operational management measures. The pollution mitigation indices used by the FRA for assessing the BESS and Substation compound reflect the nature of the activity and pollution risks.

With regard to construction road run off, protection measures can be secured via the conditioned Construction Environment Management Plan. Drainage measures for roadways are detailed in Section 6.6 of the FRA on the basis of the detailed drawings presented in Appendix C.

4. The applicant must provide hydraulic calculations for the final drainage strategy under the 1% AEP plus climate change scenario, using the most up-to-date rainfall data (FEH2013 or FEH2022) and the correct parameters (CV value of 1).

Response: The FRA has been updated accordingly to include revised hydraulic calculations using FEH2022 rainfall data. The calculations are provided in Appendix F.

5. The applicant must demonstrate that all proposed development can be made safe for its future, without increasing flood risk elsewhere, and that residual risks are appropriately managed. A sequential approach to site layout should be applied, prioritising the location of more vulnerable development in areas of lowest risk. As climate change allowances are not incorporated into the surface water flood maps the low risk (between a 1% and 0.1%) Flood Extent must be used as a proxy. Development should avoid these flow path areas to ensure the flow paths remain free from blockages and obstructions, thereby ensuring surface water flood risk is not increased elsewhere.

Response:

The design of the scheme commenced with an analysis of environmental constraints, which involved mapping areas of flood risk, including both Flood Zones 2 and 3 and surface water flooding. The scheme elements that are vulnerable to flooding are the substation and the BESS. These have been located outside areas at risk of flooding from rivers and the sea (Flood Zones 2 and 3) and at risk of flooding from surface water (low risk and above) on the eastern boundary of the Site. The layout has been designed to avoid placing any development within Flood Zones 2 and 3. Solar panels are less vulnerable to flooding and will be mounted on frames raised above ground level on low-profile stakes, allowing surface water to flow freely underneath and not creating any potential blockages. When considered alongside the embedded mitigation described below, there will therefore be no increase in flood risk of any type elsewhere.

6. *It is assumed that the Solar panels will not cause an increase to flow off site, however Solar panels as highlighted in the FRA do increase the risk of rivets and drainage channels forming underneath the panels creating flow routes from the site as these change the characteristics of the rain falling on to the ground. Without a suitable drainage system and due to the lifetime of the development these can lead to increased discharge rates and volumes from the site to the adjacent watercourse increasing flood risk to the surrounding area. Details must be submitted that demonstrate this water will be controlled in a SuDS drainage system ensuring the surface water runoff and volume is not increased off the site, which in turn if not managed would increase flood risk contrary to NPPF and the PPG.*

Response: The FRA acknowledges that, without mitigation, rainfall intercepted by the solar panels could concentrate into rivulets, increasing runoff velocity and potentially causing localised soil erosion beneath the panels. However, the Proposed Development incorporates a range of embedded design measures which are specifically intended to manage this effect and ensure that runoff rates and volumes are not increased.

- 1) The solar panels will be installed at a pitch of approximately 20 degrees, which slows water flow and reduces the likelihood of water sheeting across the panel surfaces;
- 2) Offsets between panel rows allow rainfall to disperse through the arrays rather than concentrating at the lower edge of the panels, thereby reducing runoff velocities and promoting more even distribution across the vegetated ground beneath;
- 3) The panels will be aligned with the existing topography and contours, encouraging infiltration at the point where rainfall reaches the ground and preventing concentrated overland flow paths from developing;
- 4) Vegetated ground beneath and between the panel rows, together with the wider grassland, hedgerows and landscaping proposed across the Site, will slow runoff, protect against soil erosion and increase infiltration compared with the existing arable land use;
- 5) Surface water runoff from the access tracks will be intercepted by filter drains or drainage ditches before discharging via infiltration, providing both attenuation and treatment;

6) Land adjacent to the existing unnamed watercourse will be seeded with appropriate grass species and other vegetation in accordance with the Environmental Masterplan. These vegetated areas will further promote infiltration and reduce the volume of runoff reaching the watercourse. As set out in the FRA, these measures ensure that runoff generated by the solar farm will continue to follow the existing drainage pathways, with infiltration occurring wherever practicable. The FRA concludes that the implementation of these measures will increase infiltration, reduce discharge volumes to the unnamed watercourse and ensure that runoff reaching on-site watercourses via natural drainage pathways is not increased. Accordingly, the Proposed Development will not increase flood risk on or off the Site.

A comparable approach to managing runoff from solar panels has previously been accepted by Hertfordshire LLFA in relation to the neighbouring Beane Solar Farm (East Herts ref 3/24/2245/FUL).

Conclusion

The Applicant considers that the infiltration testing, the updates to the FRA and the information provided above demonstrate that the scheme complies with national and local policy and that the risk of flooding on the Site and elsewhere is sufficiently mitigated.

Yours sincerely,



Aidan Van de Weyer
Associate Planner