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Officer: Zeinab Faris
E Mail: Zeinab.Faris@cambridgeshire.gov.uk

Executive Director: Frank Jordan
Place and Sustainability
Historic & Natural Environment

Helen Wass
Cambridgeshire County Council
New Shire Hall
Emery Crescent
Enterprise Campus
Alconbury Weald
PE28 4YE

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Emery Crescent
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PROPOSAL: Farm-based anaerobic digestion renewable energy facility, construction of vehicular access/road to A1307, associated infrastructure and landscaping Application No: CCC/23/110/FUL

Land At Streetly Hall Farm, Webbs Road, West Wickham, Cambridge, Cambridgeshire, CB21 4RP

Comments from Lead Local Flood Authority (LLFA)

Dear Helen,

Thank you for your consultation which we received on 1st of November 2023

At present we **object** to the grant of planning permission for the following reasons:

1. Surface water disposal

It is noted that the lined pond (also referred to as the lined holding lagoon, lined basin, and detention basin) is the final outfall location for surface water runoff from the proposed site, which will be re-used for the process of anaerobic digestion renewable energy facility. It is noted that in the event water levels exceeds that of the lined pond, an overflow pump will be utilised into the digestate lagoon or into the tanks. The applicant has noted that offsite storage is unlikely to be utilised.

The LLFA recognises that anaerobic digestion renewable energy facilities require a large amount of water. However, the LLFA must ensure that surface water flood risk is appropriately managed in the event that activity at the site ceases. As a result, as per section 4.3.14 of the adopted SPD, the applicant should clearly demonstrate that the proposal will be adequately drained whilst not increasing flood risk elsewhere.

2. Impermeable areas

It appears the access will be constructed using pervious techniques; however, this area has been excluded from the proposed impermeable area. Please note, the overall impermeable area used to calculate the required volume of storage should include any areas of permeable/porous surfaces as these will be positively drained into the system. The applicant should clearly clarify the definition of 'pervious techniques.'

3. Pumping

The applicant proposes to use a private pumping station. Please note pumping of surface water is an unsustainable drainage method. Pumps present a significant residual risk if they are not maintained or fail during a storm event. Our preference is for gravity discharge to the surface water drainage system, mimicking the natural drainage of the site and reducing energy consumption.

We would require that the residual risk of flooding due to the failure of the pumps be investigated. We would require that the flood level be determined under the following conditions:

- The pumps were to fail; and
- The attenuation storage was 50% full; and
- A design storm occurred

4. Hydraulic calculations

The applicant has hydraulic calculations that are insufficient in details. Therefore, the LLFA requires that the applicant address the following points:

- Full network hydraulic calculations are required for the LLFA to suitably review the proposed system. These should show the full pipe network and results for the 100%, 3.3% and 1% Annual Exceedance Probability (AEP) storm events.
- The applicant should provide full calculations to show the performance of the system for a range of summer and winter storm durations from 15 minutes up to the 10080 minute (7 day).
- In the simulation settings, the drain down time should be set to 1440 minutes (1 day) minimum and the additional storage (MADD factor) should be set to 0.
- For storm durations less than 1 hour, Flood Studies Report (FSR) rainfall data should be used. For storm durations greater than 1 hour, Flood Estimation Handbook (FEH) rainfall data should be used.
- The lowest mass balance values should be >99%. Please note, that the lower values suggest that the network calculations may not account for all surface water entering the drainage system, which could imply an unstable simulation.

- Since the modelling is for the impermeable area, Cv values (volumetric runoff coefficient) for the winter and summer storms should be set to 1.0 to account for the total runoff during storm events.
- In accordance with the [latest climate change peak rainfall intensity allowances](#), a climate change allowance should be incorporated into the surface water management scheme for the 3.3% annual exceedance probability rainfall event. The allowance used should be based on the lifetime of the development.

5. Detailed drainage layout plan

The applicant should provide a detailed drainage layout plan which is fully labelled and shows details (e.g. pipe numbers, gradients, diameters, locations and manhole details) of every element of the proposed drainage system (including all SuDS and pipes). Full details of the type and size of any flow controls should be included either with the report or on the detailed drainage layout plan.

6. Detention basin

The applicant proposes to contain surface water runoff within a lined basin. However, information pertaining to the design of the proposed basin has not been provided. Therefore, the LLFA requires that the applicant address the following points:

- Side slopes should not exceed 1:3 unless special site and/or safety arrangements allow for steeper slopes.
- A cross-section of the attenuation basin with proposed side slopes and depths should be provided to ensure clarity.

Informatives

Pollution Control

Surface water and groundwater bodies are highly vulnerable to pollution and the impact of construction activities. It is essential that the risk of pollution (particularly during the construction phase) is considered and mitigated appropriately. It is important to remember that flow within the watercourse is likely to vary by season and it could be dry at certain times throughout the year. Dry watercourses should not be overlooked as these watercourses may flow or even flood following heavy rainfall.

Assistance For Developers

- Cambridgeshire County Council has a surface water guidance document which is available to [view here](#). This document provides checklists and templates to help ensure you include sufficient information within your drainage strategies. Following

this guidance will help reduce the risk of an objection which can hold up a planning application.

- We also offer a [pre-application service](#) which enables you to discuss your drainage proposals with the LLFA Officers prior to submission of a formal application.

Yours sincerely,



Hilary Tandy
Flood Risk Business Manager

If you have any queries regarding this application, please contact the Officer named at the top of this letter (contact details are above).

Please note: We are reliant on the accuracy and completeness of the reports in undertaking our review and can take no responsibility for incorrect data or interpretation made by the authors.