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4th April 2023

Dear Emma Crotty,

Application Reference: **22/06443/FULEA**
Location: **Land Adjacent South Side Marlow Road and A404 Junction, Westhorpe Park, Little Marlow, Buckinghamshire**
Proposal: **Full planning permission for production space and supporting buildings for screen-based media and associated services/industries. The development of approximately 168,718 sqm GEA total floorspace comprising: sound stages, workshops, office accommodation, studio hub associated outdoor space such as backlots and unit bases; entrance structures and reception; security infrastructure, mobility hub; cafes; parking; bridge; incidental supporting buildings; associated infrastructure; public art; upgraded vehicular access onto Marlow Road; new cycle and pedestrian accesses; a new cultural/educational/recreational building; a new community building and associated landscaping, publicly accessible recreational land and ecological and environmental enhancements/habitat creation**

Buckinghamshire Council as the Lead Local Flood Authority (LLFA) has reviewed the information provided in the following documents:

- Flood Risk Assessment and Appendices (60654980-ACM-XX-XX-RP-DR-000001 revision P06, 24th February 2023, AECOM)
- Plot 4 to 5 Crossing Structure Technical Note (60654980-ACM-XX-XX-TN-SE-000007, 2nd March 2023, AECOM)
- Surface Water Drainage Strategy (60654980-ACM-XX-XX-RP-DR-000002 Revision P04, 24th February, AECOM)
- Location Plan (MFS-PP-MP-LP-0001 Revision P03, 21/06/2022, Prior + Partners)
- Site/Block Plan (MFS-PP-MP-LP-0002 Revision P03, 21/06/2022, Prior + Partners)

- Design and Access Statement (May 2022, Marlow Film Studio)

The LLFA required additional information prior to determination of the application.

Groundwater Flood Risk

In accordance with previous LLFA comments, the applicant has undertaken groundwater monitoring from January 2022 through to December 2022. Whilst this demonstrates that levels were below ground level throughout the year, we would like to highlight that 2022 was a dry year with 'below normal' groundwater levels throughout the whole of 2022 (Monthly water situation report: Thames Area, February 2023, Environment Agency). Therefore, the groundwater monitoring undertaken in 2022 is not fully representative of the groundwater levels at the site. We would also note significant variances in groundwater levels throughout the site, particularly between boreholes 102 and 103. It is understood that groundwater monitoring has continued until March 2023, and the LLFA would request that groundwater monitoring results for rest of December 2022 until March 2023 are provided, to demonstrate winter groundwater levels throughout these months.

Bridge from Plot 4 to 5

In this area, the flooding mechanism appears to be complicated by interactions between the pond networks, and whilst a description of potential flood impacts has been provided for the culverted road crossing, the LLFA require hydraulic modelling of the road crossing to demonstrate that there are no interactions that increase flood risk. Environment Agency flood levels including climate change allowances (Appendix F of the FRA) indicate potentially significant changes in water level. The modelling assessment should consider climate change impacts on design and flood risk. The Applicant should also confirm any scour related issues around the structure that need to be considered as part of modelling works.

Drawings submitted as part of the Plot 4 to 5 Crossing Structure Technical Note show the proposed scheme. We note that the details surrounding construction will need to be dealt with as part of the Land Drainage Consent (further information can be found in the informative below). However, there has been no consideration of any temporary works required to install the culverts. This will be dependent on the proposed working methodology for installation and silt removal without increasing pollution risk. If this is based on the use of temporary cofferdams, there may be impacts that will need to be confirmed as part of modelling for temporary works. Based on available flood mapping, there would appear to be a significant variance in water levels and presumably flows between connecting waterbodies. Evaluation should be made for both temporary and permanent works for a range of flood conditions.

Surface Water Drainage

The site has been divided into six plots: Plots 1, 2A, 2B and 3 to the north of the site, Plot 4 to the east of Westhorpe Lake and Plot 5 to the south of Westhorpe Lake.

Plot 4 – Culture and Skills Academy

The surface water drainage scheme has been updated to provide a surface water drainage strategy for the Culture and Skills Academy. Permeable paving and a pond have been proposed to manage

surface water runoff from the hard standing areas. Surface water runoff will be discharged into Westhorpe Lake via outfall 2.

Plot 5 – Backlot and Bridge

It has been confirmed that the road from the bridge to the Backlot Area will be constructed with gravel. There are concerns that due to heavy vehicles driving along the road, the gravel will compact over time and the area will become impermeable. This will increase the impermeable area and therefore increase runoff, further details of how this would be managed is required.

It should also be noted that, no details of how the bridge structure itself will manage runoff has been provided, and therefore this information must also be submitted.

Calculations

Calculations still have not been submitted to support the proposed surface water drainage scheme, calculations to demonstrate that the proposed drainage system can contain up to the 1 in 30 storm event without flooding must be provided. Any onsite flooding between the 1 in 30 and the 1 in 100 plus 40% climate change storm event should be safely contained on site. These calculations must include details of critical storm durations and demonstrate how the proposed system as a whole will function during different storm events. If any flooding occurs for the 1 in 100 year plus 40% climate change event, then we require details of where this flooding will occur and the volume of the flooding.

Climate change allowances

The Environment Agency updated the climate change allowances for peak rainfall intensity in 2016. When designing a surface water drainage system, the LLFA encourage that 40% climate change allowance is used. A climate change allowance of 20% will be accepted if the system has been sensitivity checked for the 1 in 100 plus 40% climate change allowance event.

Exceedance

If any flooding occurs for the 1 in 100 year plus 40% climate change event, details of where this flooding will occur and the volume of the flooding must be provided. For rainfall events over the 1 in 100 plus 40% climate change allowance event, a drawing showing the direction of exceedance flows must be provided.

Factor of safety

A factor of safety must be applied to any calculations for the proposed surface water drainage scheme in accordance with best guidance.

Submerged Outfall

Calculations must also be provided which shows how the surface water system would function when the outfall to either the lake or the watercourse is submerged.

Floatation Calculations

It should be noted that due to the anticipated high groundwater, flotation calculations will be required. These calculations must be informed by observed groundwater levels (over the winter period).

Information Required

- Groundwater level monitoring from December 2022 and January 2023 to March 2023
- Hydraulic Modelling to demonstrate the impact of the proposed bridge on the watercourse
- Demonstration that Westhorpe Lake has sufficient capacity to accommodate additional runoff
- Details of the gravel road will drain if it becomes compacted
- Details of how the bridge structure will manage surface water runoff
- Calculations to demonstrate that the proposed drainage system can contain up to the 1 in 30 storm event without flooding Calculations to demonstrate that the proposed drainage system can contain up to the 1 in 30 storm event without flooding, including calculations with a submerged outfall

We look forward to receiving the additional information requested above. It is requested that the Local Planning Authority consults the LLFA when they are in receipt of this information so that we can review our position in relation to the above proposals.

Advice to LPA

If you are minded to approve the application contrary to this advice, we request that you contact us to allow further discussion and/or representations from us.

Advice to the Applicant

Land Drainage Consent

Under the terms of the Land Drainage Act 1991 and the Floods and Water Management Act 2010, the prior consent of the Lead Local Flood Authority is required for any proposed works or structures in the watercourse. After planning permission has been granted by the LPA, the applicant must apply for Land Drainage Consent from the LLFA, information and the application form can be found on our website. Please be aware that this process can take up to two months.

Yours sincerely,

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Joseph Landells-Molloy
Engineer, JBA Consulting on behalf of the Lead Local Flood Authority