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## **Lunce's Hill Flood Risk Approach**

### **Introduction**

This note outlines the approach taken to assess flood risk at the proposed residential development site located at Lunce's Hill, Haywards Heath.

### **EA Fluvial Flood Risk**

According to the Environment Agency's (EA) Flood Map for Planning (FMP), the site was initially classified as Flood Zone 1, indicating a less than 1 in 1000-year risk of flooding from rivers. However, following an update to the FMP in March 2025, part of the site's southeast area was reclassified as lying within Flood Zones 2 and 3.

The flood risk is shown to originate from a watercourse which bisects the site from west to east. EA flood mapping focuses on 'main rivers.' The watercourse crossing the site is designated as a 'main river' to the immediate east of the site boundary, whilst the section within the red line is classified as an 'Ordinary Watercourse. Consequently, the flood modelling underpinning the FMP covers only a small portion of the site boundary.

Overlying the updated flood mapping onto the proposed development layout, it indicates that two residential properties are sited on land now assessed as Flood Zone 2.

Due to the catchment size associated with an ordinary watercourse (below 3km<sup>2</sup>) the fluvial flood risk is typically assessed within surface water flood modelling. Furthermore, as a designated ordinary watercourse, responsibility falls under the Lead Local Flood Authority (LLFA).

### **EA Surface Water Risk**

The EA's Flood Map for Surface Water shows that land in the west and the south of the site has a 'Low' and 'Medium' risk of surface water flooding. Additionally, 'High' risk of surface water flooding is shown within the site in localised areas in the southeast, west and adjacent to the Pellingford Brook. This appears to be a flow path associated with the watercourse, flowing off-site to the east.

### **RPS Detailed Flood Modelling**

In response to the identified flood risks, a detailed hydraulic surface water modelling study was conducted for the site to better understand baseline conditions within the site and the broader catchment. The approach applies rainfall across the modelled area, and results in larger extents than the comparison to the EA FMP, and is therefore considered conservative.

This modelling also assessed the flood risk posed to the proposed development and evaluated potential impacts on off-site flood risk and flow regimes.

The modelling incorporated one-dimensional analysis of the on-site watercourse (using ESTRY-TUFLOW), including representation of structures along the ordinary watercourse. This approach offers a more detailed, site-specific understanding of flood risk compared to the broader FMP and Surface Water Flood Map.

Model results, presented at the Outline Planning Application stage, demonstrate that a viable development scheme can be implemented, incorporating effective flood risk mitigation measures. The proposed scheme reduces flood risk to vulnerable land uses within the development and does not increase off-site flooding up to the 1 in 100-year event, including allowances for climate change.

### **Sequential and Exception Test**

As outlined in the Flood Risk Assessment (FRA), the Sequential Test aims to direct development towards areas with the lowest flood risk. The updated RPS flood modelling has been used to inform a sequential approach steering development parcels away from flood-prone areas and incorporating appropriate mitigation where necessary.

Residential development areas have been guided by the site-specific hydraulic modelling results. This process confirms no increase in off-site flooding up to the 1 in 100-year event with climate change allowance. Furthermore, the modelling results are applicable to the fluvial flood extents within the site boundary, ensuring that development is positioned away from all identified flood risk areas, including the reclassified fluvial risk areas of Flood Zone 2 and 3.

Yours sincerely,

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