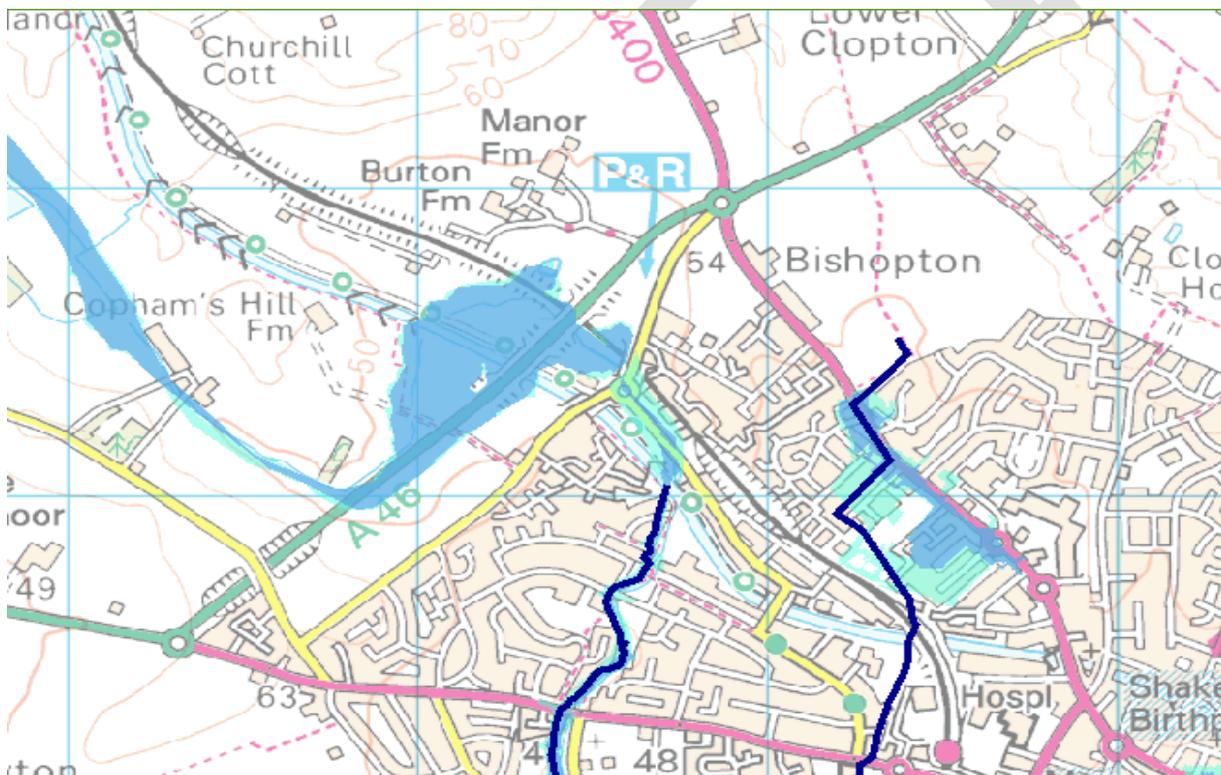


**PROPOSED DEVELOPMENT AT BISHOPTON LANE, STRATFORD-UPON-AVON
FLOOD RISK BRIEFING NOTE
OUR REF: AB/TR/20459 – JUNE 2015**

This briefing note provides a summary of the Flood Risk and Drainage work undertaken to date for a proposed development at Bishopton Lane, Stratford-upon-Avon. A Flood Risk Assessment is currently being prepared in accordance with the requirements of the NPPF.

The Environment Agency flood map (see below) shows that the site is located predominantly within Flood Zone 1 (low probability of flooding) and therefore development is sequentially acceptable in these areas. However, part of the land adjacent to the A46 is shown to be located in Flood Zones 2 (<1000 years) and 3 (<100 years) due to flooding extending from the Shottery Brook which is located on the western side of the A46.



Environment Agency Flood Map

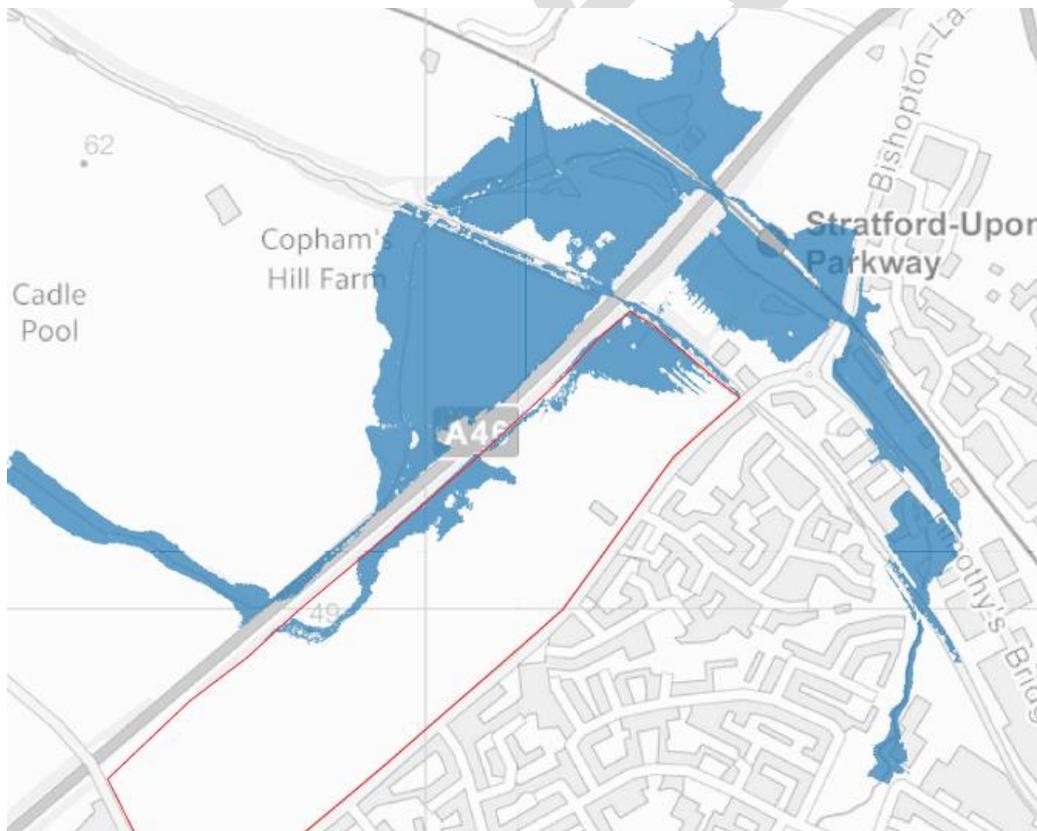
Following discussions with the Environment Agency, it has been identified the existing model used to prepare the above flood map is out of date and not based on a site specific assessments using detailed topographical survey information of the site area, key watercourses, ditches and other hydraulic structures and features. For example the Environment Agency model does not consider the A46 which introduces a fundamental barrier to flooding and makes the situation noticeably better.

In order to refine the extent of flooding identified on the eastern side of the A46 a detailed hydraulic model has been completed and the results are presented below. This considers greater detail on channel levels within the Shottery Brook and across the site. The revised predicted flood plan indicates a greater extent of Flood Zone 1. This model has been issued to

the Environment Agency and Warwickshire County Council for comment and agreement and once agreed it is likely a formal request to change the published flood maps will be made.



1 in 100 year plus climate change modelled flood extent



1 in 1000 year modelled flood extent

To ensure the development is sequentially acceptable, the proposals ensure all development is confined to Flood Zone 1 only and it is proposed to exclude all areas of Flood Zone 2 and 3 from the flood zone.

The proposed development has the potential to increase run off rates as a result of additional hardstanding areas. To ensure this is controlled, and the risk of flooding is not increased, attenuation features will be provided along the western boundary of the site (outside the identified flood zones) adjacent to the A46. It is proposed to have three attenuation features to provide approximately 6000m³ of storage up to the 1 in 100 year flood event including 30% for climate change. These features will discharge into existing ditches and drains within the site boundary which drain west under or through the A46 to the Shottery Brook. Flow control devices will be used to control discharges rates and it is anticipated betterment in the region of 70% will be provided which will deliver significant flood relief benefit to the wider area.

Additional treatment train processes will be included as part of the surface water drainage strategy to ensure water quality is maintained.

Foul flows will discharge into the existing sewage system and Severn Trent Water will implement improvements to the existing system as required. The existing combined sewer crossing the site will be diverted and accommodated as part of the scheme. Severn Trent Water are currently undertaking a modelling exercise and under the Water Industry Act (1991), developers have a right to connect foul and surface water flows from new developments to public sewers. The Act places a general duty on sewerage undertakers, including Severn Trent Water, to provide the additional capacity that may be required to accommodate additional flows and loads arising from new domestic development. This relates to both sewerage infrastructure (including sewers and pumping stations) and sewage treatment works. Improvements are therefore required to the existing network to accommodate the additional flow generated by the development.

By confining development to areas of the site within Flood Zone 1, the development has been designed to be sequentially acceptable and there are no constraints to development of the site in flood risk terms and suitable provision will be made for foul and surface water drainage from the development area.