

# Site 1 - Land north of Brook Road, Bassingbourn

## Flood Risk & Drainage Review

### 1 Site Overview

The site's topography is fairly flat with a slight fall to the east corner. The ditches shown to the north and west of the site are shallow with no historical connectivity to the site.

The bedrock geology at the site is shown to be Chalk (West Melbury Marly), no superficial deposits are recorded. A nearby borehole record shows sands and gravels to 2m below ground level (bgl) and clay to 3m bgl where water was struck. Another shows chalk through to 247ft bgl.

### 2 Flood Risk

The site lies in Flood Zone 1 and is at low risk of flooding from tidal/fluvial sources. Ordnance Survey (OS) mapping shows nearest ditch/drain approximately 100m north-west (see Figure 1).



Figure 1 – Environment Agency flood map

The site is shown to be at very low risk of surface water flooding (see Figure 2).



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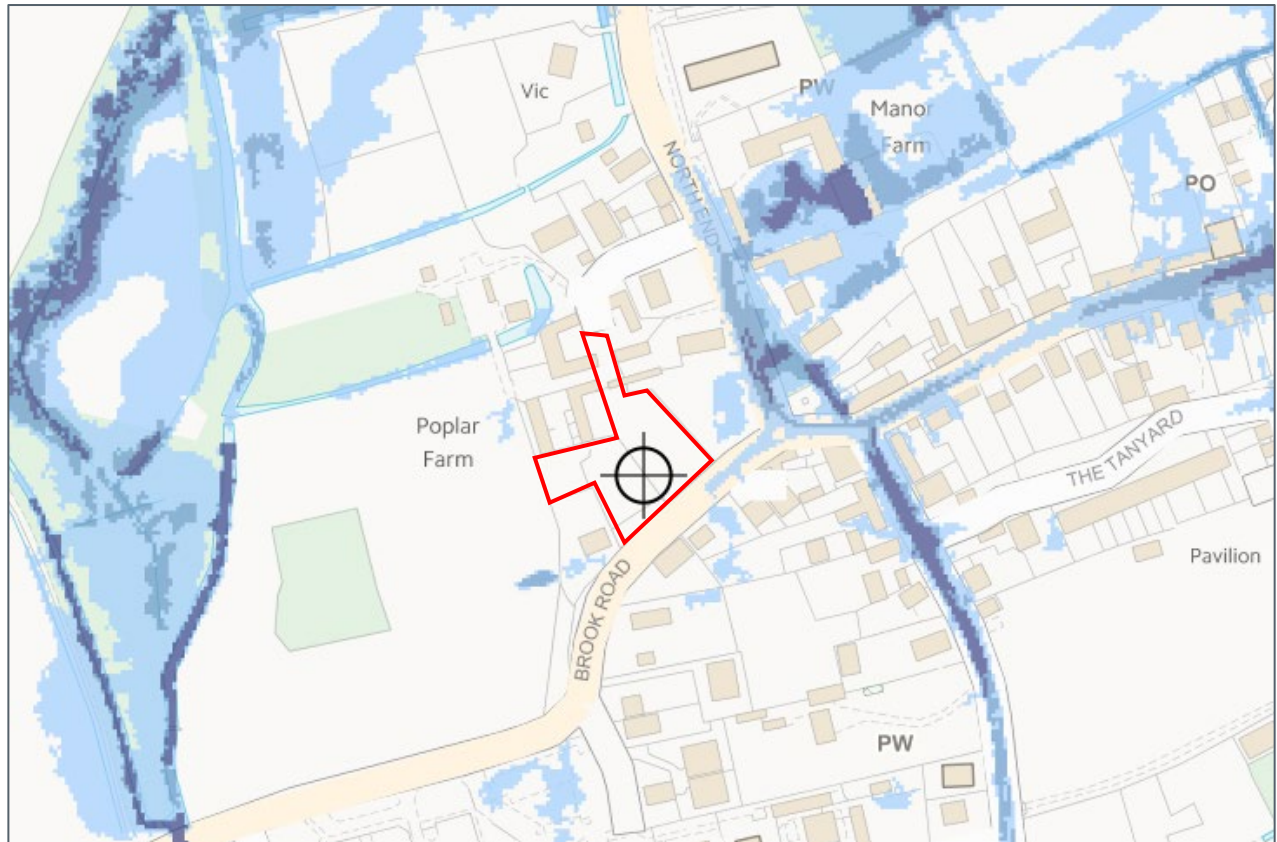


Figure 2 – Surface water flood map

The site is not shown to be at risk of flooding from reservoirs.

The site is not in a Groundwater Source Protection Zone.

### 3 Surface Water Drainage

The watercourses on/surrounding the site, coupled with the information from the BGS website, suggests that shallow infiltration drainage is unlikely to be viable at the site and that an alternative method of discharging surface water will need to be determined, however this will need to be confirmed through appropriate testing.

The drainage strategy will need to be in line with the requirements of the drainage hierarchy as set out in Building Regulations Part H and the requirements of the Cambridgeshire Lead Local Flood Authority (LLFA). The drainage hierarchy is:

- Via infiltration;
- To watercourse;
- To sewer.

At this stage there is no site investigation or permeability testing information available and suitable testing to BRE365 will need to be undertaken to confirm whether this is a viable method for the disposal of surface water run-off.



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There are sewers in the vicinity of the site, however it is considered likely that the discharge of surface water from a greenfield site to the sewers will not be permitted as it appears that there is a single drainage system (foul or combined) rather than a separate surface water sewer.

Alternative options for the disposal of surface water run-off from the site include:

- A new sewer along North End to connect to the ditches to the north of the site. This would need to confirm a viable route and that there is sufficient fall between the site and the receiving watercourse.
- Deep bore infiltration, subject to testing to BRE365.
- There is the possibility of an old surface water drain running through the site; this could provide an outfall route but needs to be fully investigated to prove its presence and also where it discharges to.
- Pumped solution to discharge water to the ditch to the west. As this is the least sustainable method of discharge of surface water run-off it will need to be fully justified via ruling out all other options.

The drainage strategy will need to meet the requirements of Cambridgeshire LLFA including allowance for rainfall in line with current guidance, treatment of surface water run-off and preferential use of open SuDS systems for the attenuation of surface water run-off. The drainage hierarchy in the 'Guidance for Developers' document should be followed.