

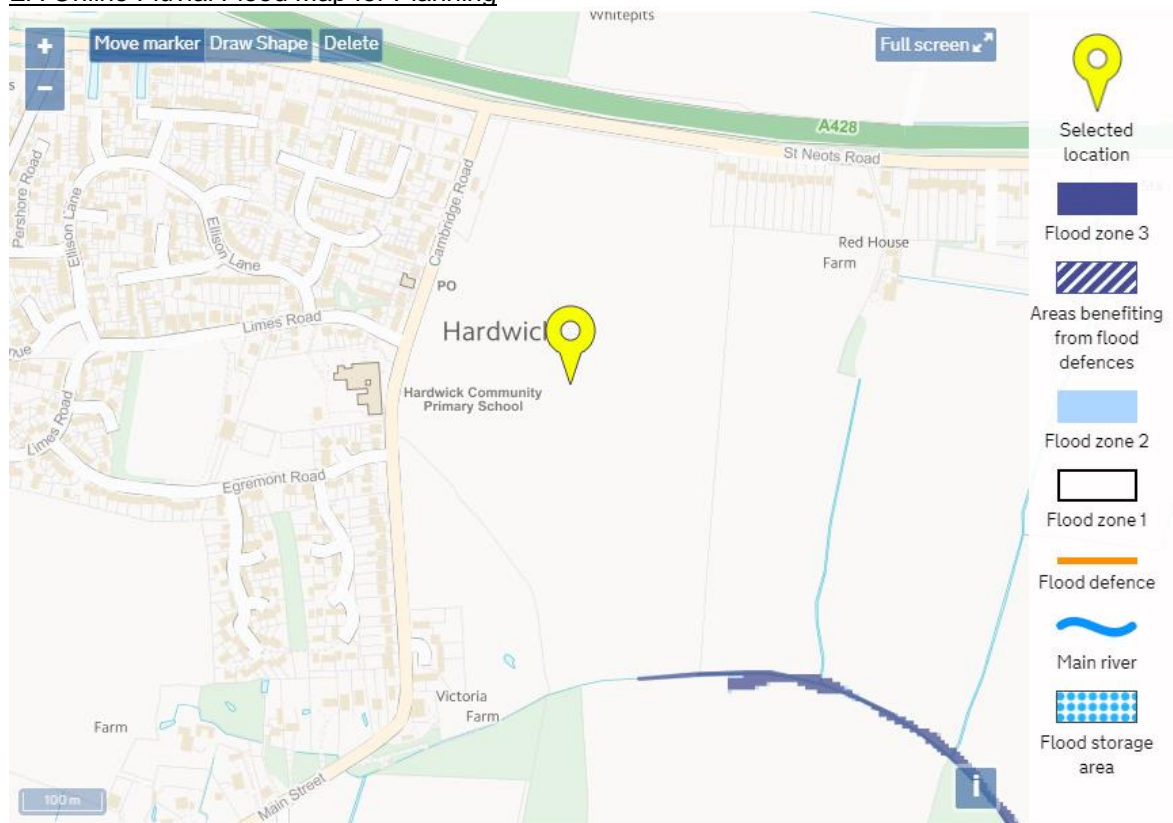
Land East of Cambridge Road, Hardwick, Cambridgeshire: High Level Drainage Strategy

March 2019

1. Introduction and Background

- 1.1 This note sets out the high-level drainage strategy for development on Land East of Cambridge Road, Hardwick, Cambridgeshire. It also describes the site's risk of fluvial and surface water flooding. Flooding is often caused by both sources of flood water combining.
- 1.2 The Environment Agency's (EA's) flood risk map below shows the site as mostly at low risk for fluvial flooding, but with some areas in the south east corner of the site associated with the Bin Brook as at high risk. Fluvial flooding is typically defined as flooding caused by water in rivers rising above bank levels.

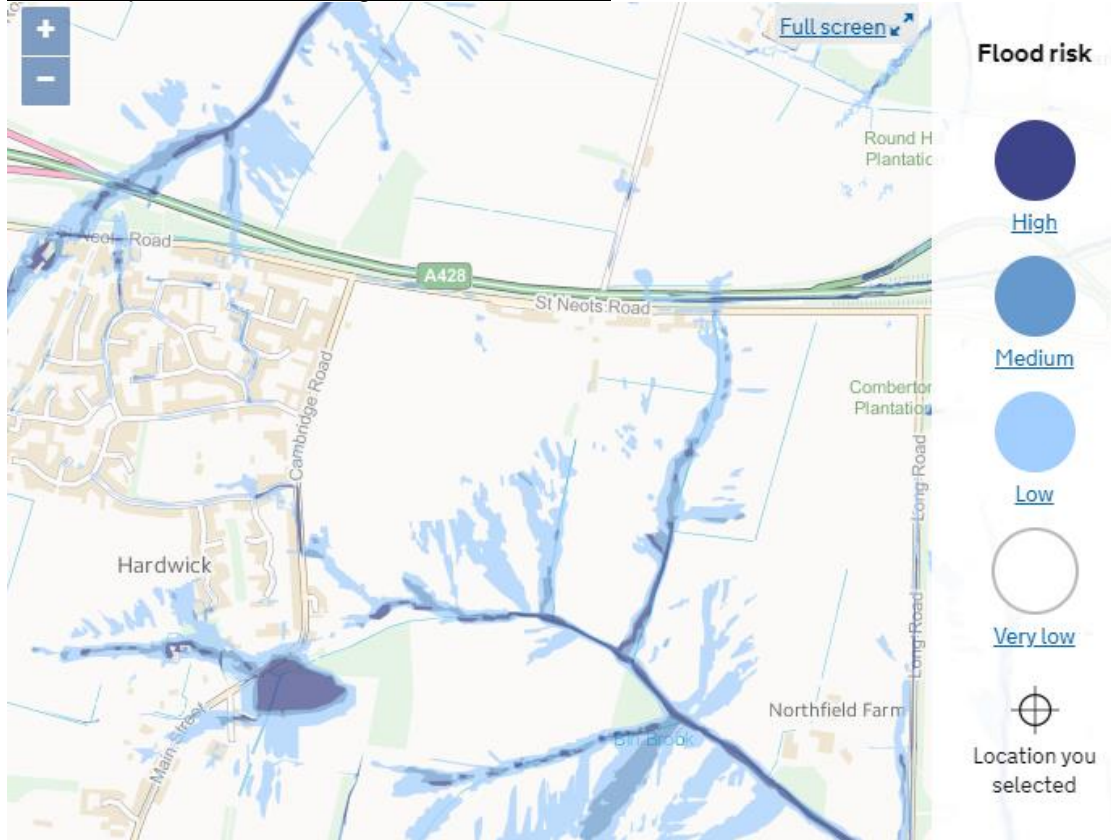
EA Online Fluvial Flood Map for Planning



- 1.3 The site is also in an area of a very low to low risk of flooding from surface water, as indicated on the Government's risk of surface water flooding map below. Surface water flooding is flooding caused by heavy rainfall running off land and ponding in areas of low topography as it flows towards a watercourse or land drain.

Land East of Cambridge Road, Hardwick, Cambridgeshire: High Level Drainage Strategy

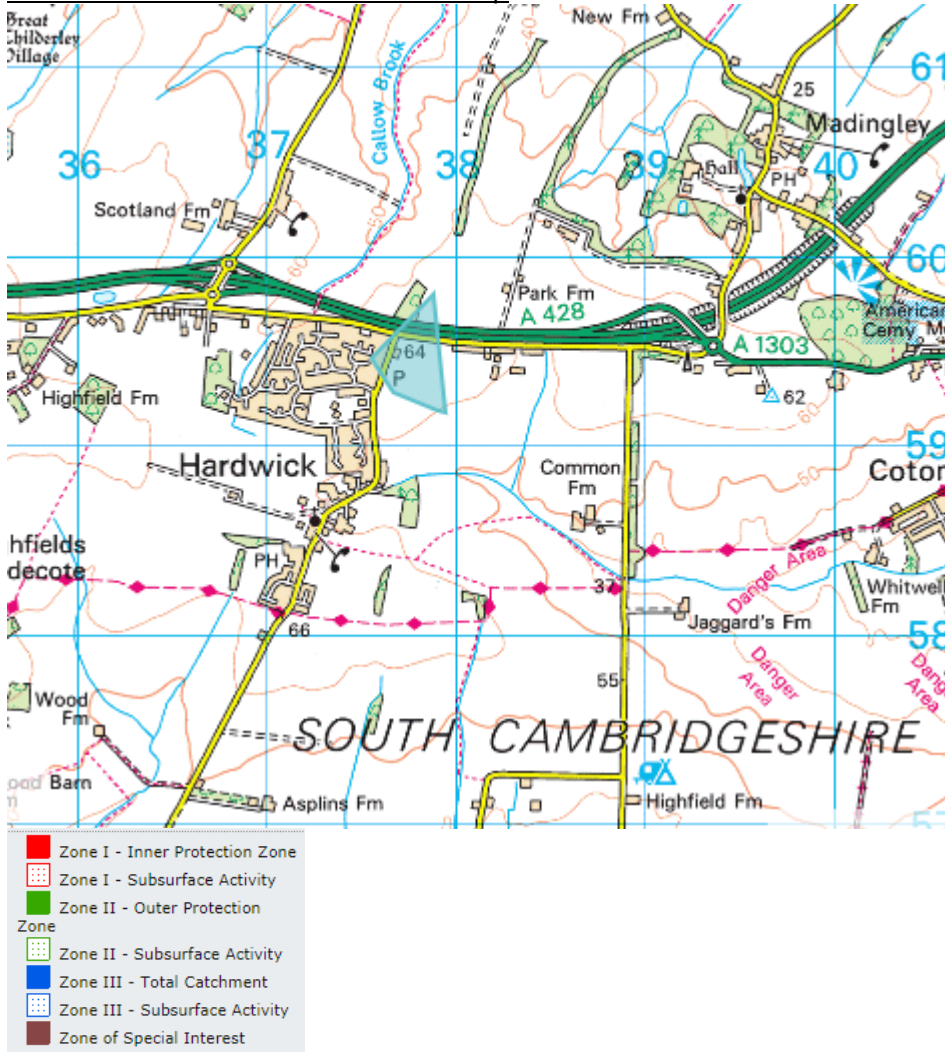
Online Map of Risk of Flooding from Surface Water



1.4 The site is not located in a groundwater source protection zone or protected aquifer, as indicated by the groundwater source protection zone map below.

Land East of Cambridge Road, Hardwick, Cambridgeshire: High Level Drainage Strategy

Groundwater Source Protection Zone Map



2. Sustainable Surface Water Drainage Strategy Proposals

- 2.1 Although flood risk is mainly confined to a small localised area to the south east of the site, the emerging masterplan will locate no development within areas that are shown to be at risk of fluvial flooding.
- 2.2 The proposed surface water drainage strategy for the site is being developed and informed by the existing site constraints and hydrological catchments. The surface water drainage will be carefully developed to address the proposed landscape and visual requirements, identified during the baseline analysis for the project.
- 2.3 The Proposed Development will include a comprehensive Sustainable Drainage System (SuDS) which will play an integral part of the Green Infrastructure (GI) for the project. The proposed SuDS will seek to deliver long term mitigation by attenuating and treating the development generated surface water runoff and where possible provide betterment. The SuDS will be designed so they will integrate within the wider landscape proposals and will provide opportunities, where possible, to enhance biodiversity and recreation facilities.

Land East of Cambridge Road, Hardwick, Cambridgeshire: High Level Drainage Strategy

- 2.4 As well as providing a drainage function, the SuDS will also form an important part of the project's biodiversity strategy. The proposed SuDS features will be designed so that they maximise opportunities for habitat creation and wildlife. This will include the introduction of appropriate marginal planting and some native tree and shrub planting. The proposed strategic attenuation areas being proposed will be designed to enhance and complement the existing watercourse of the Bin Brook located to the south of the site.
- 2.5 The prevailing surface water strategy to be adopted is likely to utilise strategic attenuation areas such as detention basins and linear dry swales to provide the necessary storage for extreme rainfall events. Piped networks could still be appropriate in some areas of the site due to the gradients and to suit parts of an emerging masterplan, green corridors will also be provided where gradients and masterplan constraints allow. The green corridors will give opportunities within the development to locate swales and filter drains, which can be used not only to enhance the living conditions of the site but also to convey and treat the surface water drainage generated from the development. Upstream on plot drainage solutions such as bio-retention planters, permeable paving could also be provided to pre-treat the runoff generated from the hard standing surfaces such a car parking areas.
- 2.6 Discussions will be undertaken with the approving authorities so that the proposed SuDS are designed in accordance with best practice.
- 2.7 An easement from the river bank of the Bin Brook to the South of the site will also be incorporated within the development proposals in accordance with the Land Drainage Byelaws. This is so continued maintenance can be provided to the watercourse.