# Options for managing flooding risk in Ashton Keynes

## Background

We live in the upper Thames water catchment area, which means that rivers and brooks converge to the Thames, and the ground water table is always high. Large areas of ground water are protected and there are Source Protection Zones around the village, centred on the Thames Water abstraction pumping station.

A network of rivers and watercourses directed water around the village, and these were controlled and made use of. In times of flooding the fields to the south of the village along the Thames and Swill Brook function as flood plains, acting as storage areas for water that can't quickly flow away. The importance of these is still recognised, and Flood Risk Assessments carried out for planning applications indicate some of these flood plains. ***(map-1)*** Additionally, to mitigate flood risk many ditches were dug along the roadsides and fields. ***(map-2)***

Housing development in recent years has generally avoided flood risk areas, and planning policies are in place to control development in inappropriate areas.

## The Problem

Extreme periods of heavy rain have always led to fluvial (river) and pluvial (rainwater) flooding. The 1947 flood was severe and affected properties, particularly in the northern part of the village ***(map–3)***. As the map illustrates this was due to both fluvial and pluvial flooding.

Extreme weather events are difficult to predict, and seem to be largely due to variations in the Jetstream. The Feb 2020 rainfall was the highest on record, and caused massive surface area flooding around the country. The rivers could not cope with the drainage flow, and overflow exacerbated the problem downstream. Poorly maintained watercourses and ditches which become obstructed to a large extent will inevitably contribute to surface water overflow and slow drain-away.

Extreme periods of rainfall will occur again at unpredictable times, and flooding will occur in the village and in the fields. Some properties will suffer flooding. This is borne out by historic flooding ***(map–3)*** and environment agency predictions for extreme rainfall. ***(maps – 4, 5, 6)***

## The Solution

The best method to manage flood risk is by a strategy of Maintaining-Monitoring-Alerting.

The condition and effectiveness of the rivers and watercourses going through and around the village should be inspected and potential obstructions identified.

Regular inspection of the rivers, watercourses and ditches should be carried out. Members of the community living next to these features could also provide valuable information to the Flood Risk Management Working Group.

To allow good water flow, the Environment Agency recommends one third of the river channel are clear of obstructions, and overhanging branches left to shade the river and restrict growth. Tree roots help to protect banks from erosion and vertical pruning should be avoided.

To mitigate the build up of silting in the rivers downstream of the village, a regulation regime should be adopted using the sluices in the rivers flowing through the Parish to increase flow in particular sections where needed. Environment Agency assistance will likely be required for water flow adjustment.

Additional flood store areas in strategically selected locations could be of help in reducing surface flooding. However, this could be a longer term proposition as land owner consent and funding for civil workings would need to be secured. High resolution LiDAR analysis of the terrain in the village would prove useful in identifying suitable areas, and the Environment Agency may be able to assist with this.

Obstructions identified in river and watercourses need to be assessed to determine if **remedial** work is necessary, or urgent, to restore the free flow of water. If remedial work is required the following **Action A** should be taken to achieve this:

### Action A) Request the Riparian owners to carry out work

The responsibility for ensuring that rivers and watercourses allow the unimpeded flow of water rests with the Riparian owner. Land owners where a river or watercourse is adjacent to the boundary have a legal responsibility to maintain them in good order.

The Flood Resilience Officer for Wiltshire Council, who acts as the Lead Local Flood Authority (LLFA), firmly supports the process of Parish Councils communicating with Riparian owners to resolve issues arising from obstructed rivers and watercourses. In the event that Parish Council efforts prove unproductive, the LLFA undertakes to pursue Riparian owners and initiate legal proceedings. Nearly all discussions at this stage lead to an amicable resolution.

Wiltshire Council provide guidance and support on watercourse and ditch flood risk, and a recommended procedure on communicating with Riparian owners.

http://www.wiltshire.gov.uk/ofwg-briefing-note-for-parish-councils-watercourse-ditch-flood-risk.pdf

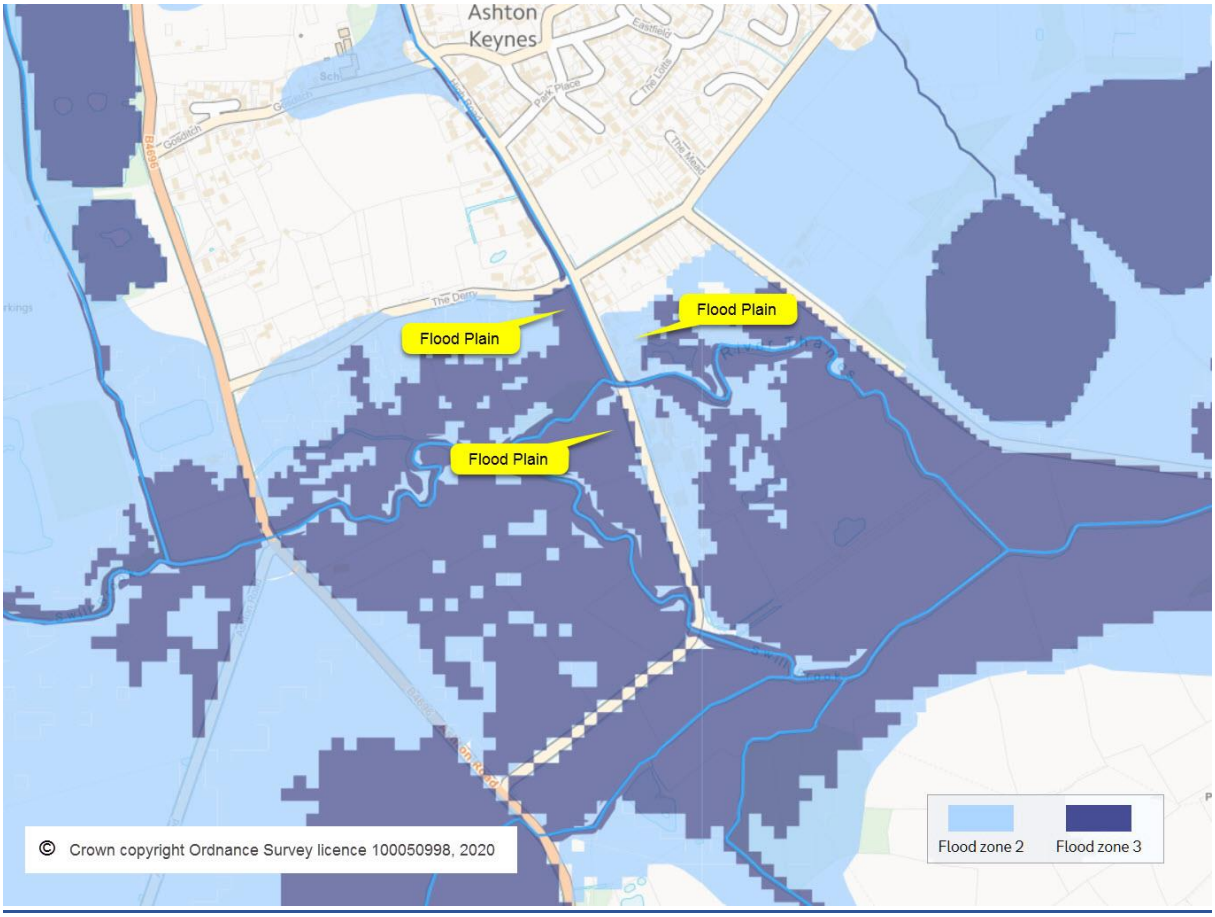
The Parish Council has never used this process, and this should be used when seeking to resolve any potential obstructions in the rivers and watercourses.

Should inspections identify sections of the rivers or watercourses that are badly maintained, **preventative** work by the Riparian owners could be requested. Should this not be forthcoming, and the section is considered to be accessible and of aesthetic value to the community, a working party could be assembled and the following **Action B** could be taken to achieve this:

### Action B) Assemble a Working Party of volunteers to carry out work

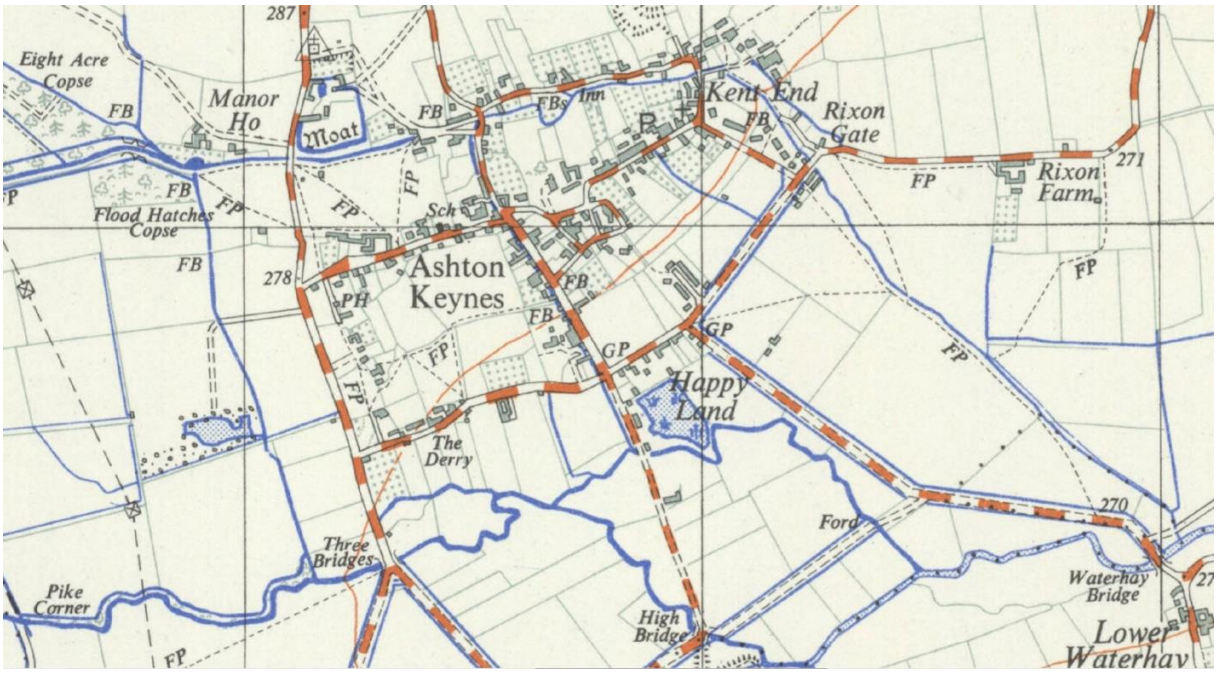
The Flood Risk Management Working Group maintains a list of community members who have expressed interest in volunteering to participate in a working party to help do preventative work. Permission from the Riparian owner and Wiltshire Council, or the Environment Agency, will be required. The Environment Agency can provide guidance on how this non-mechanical work should be done, and whether a permission permit will be required.

## Map References

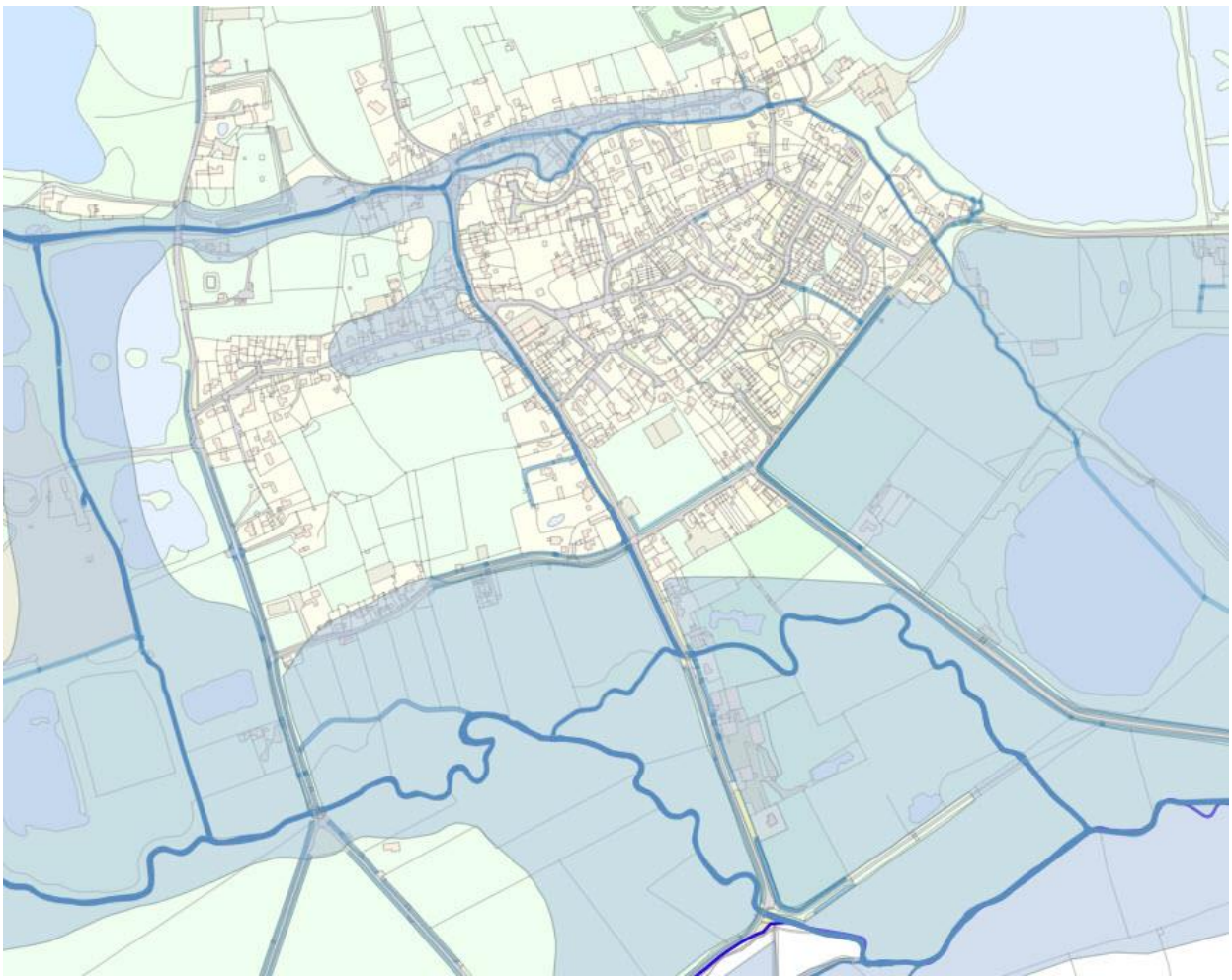



(map-1) Flood Plains identified in Flood Risk Assessments

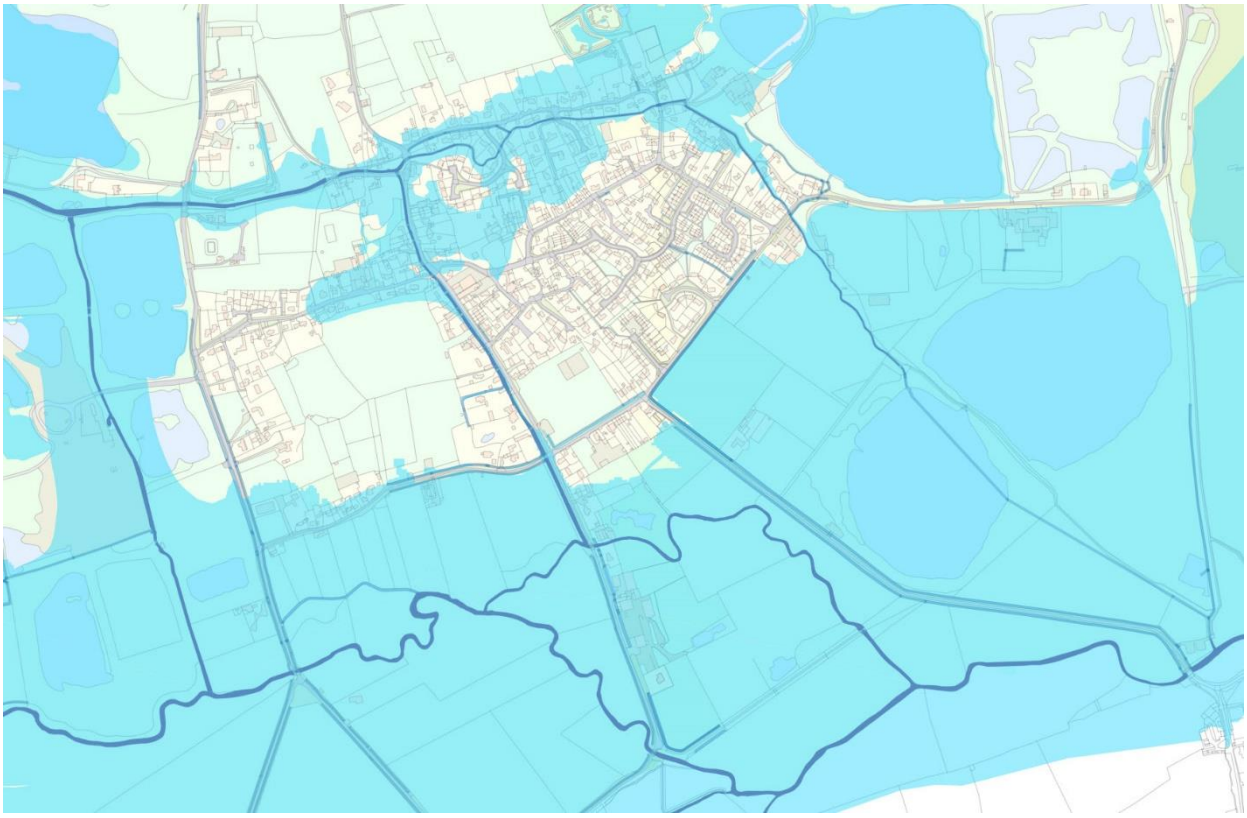
Planning Application 17/05304/OUT Flood Risk Assessment.pdf pg11
Planning Application 18/07243/FUL Flood Risk Assessment.pdf pg12
Planning Application 17/12064/WCM pg77 Hydrological Impact & Flood Risk Assessment.pdf pg77



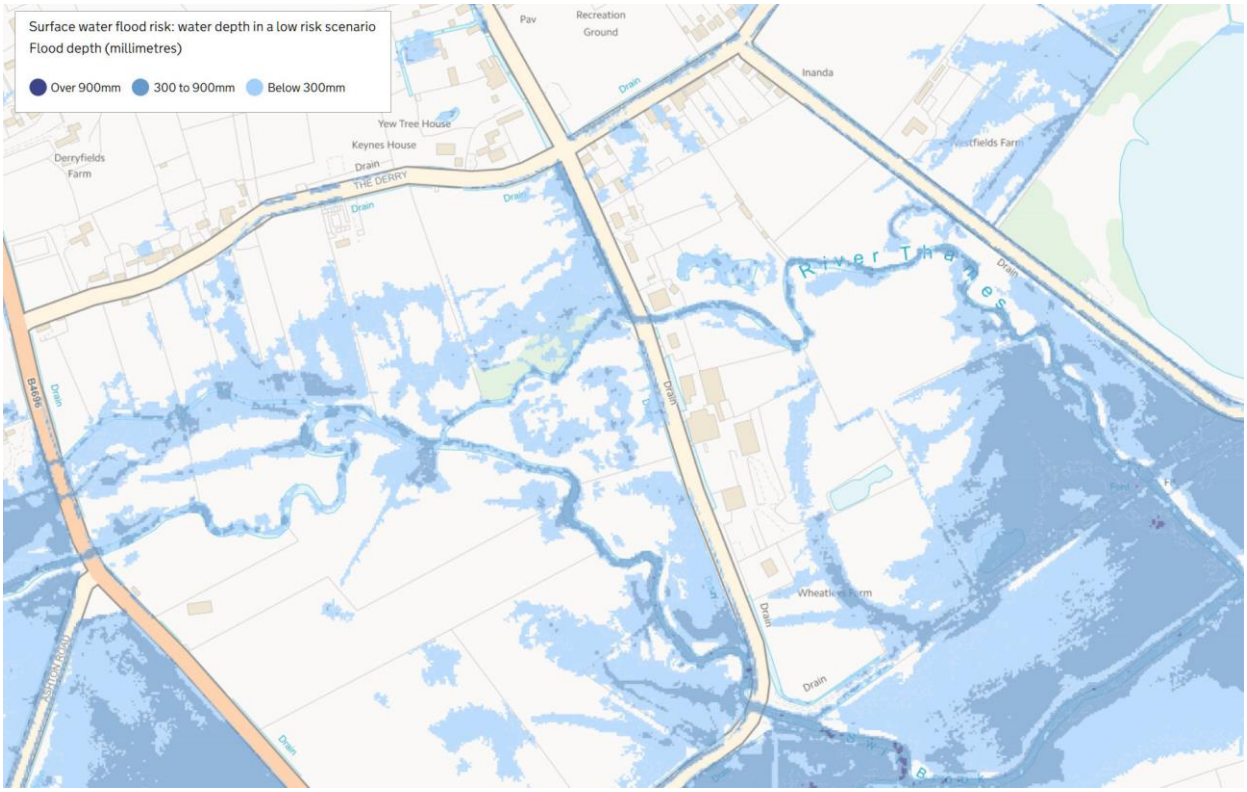

(map-2) 1937 Ordnance Survey map of Ashton Keynes (OS PSMA licence 100050998)



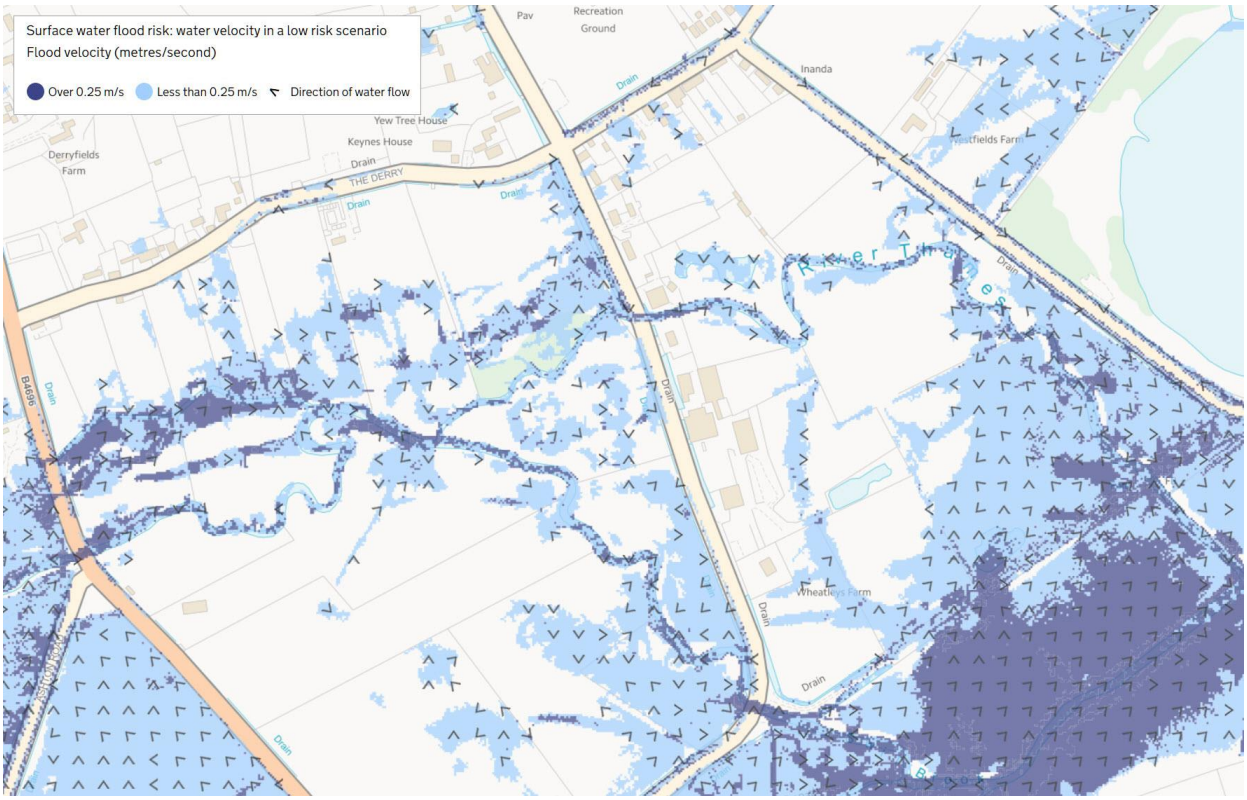
(map-3) 1947 Flood of Ashton Keynes (Environment Agency data – OS PSMA licence 100050998)



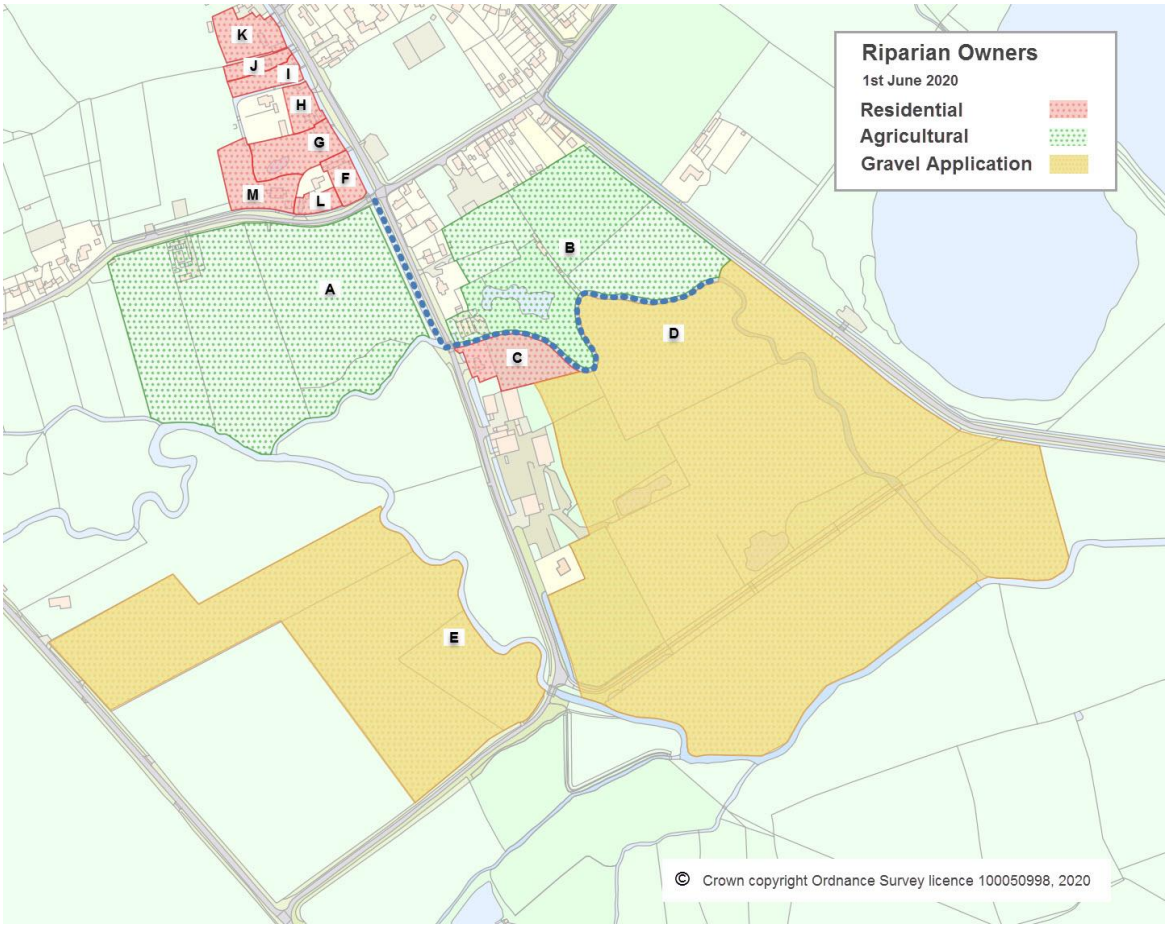
(map-4) Flood Alert Areas for Ashton Keynes (Environment Agency data – OS PSMA licence 100050998)



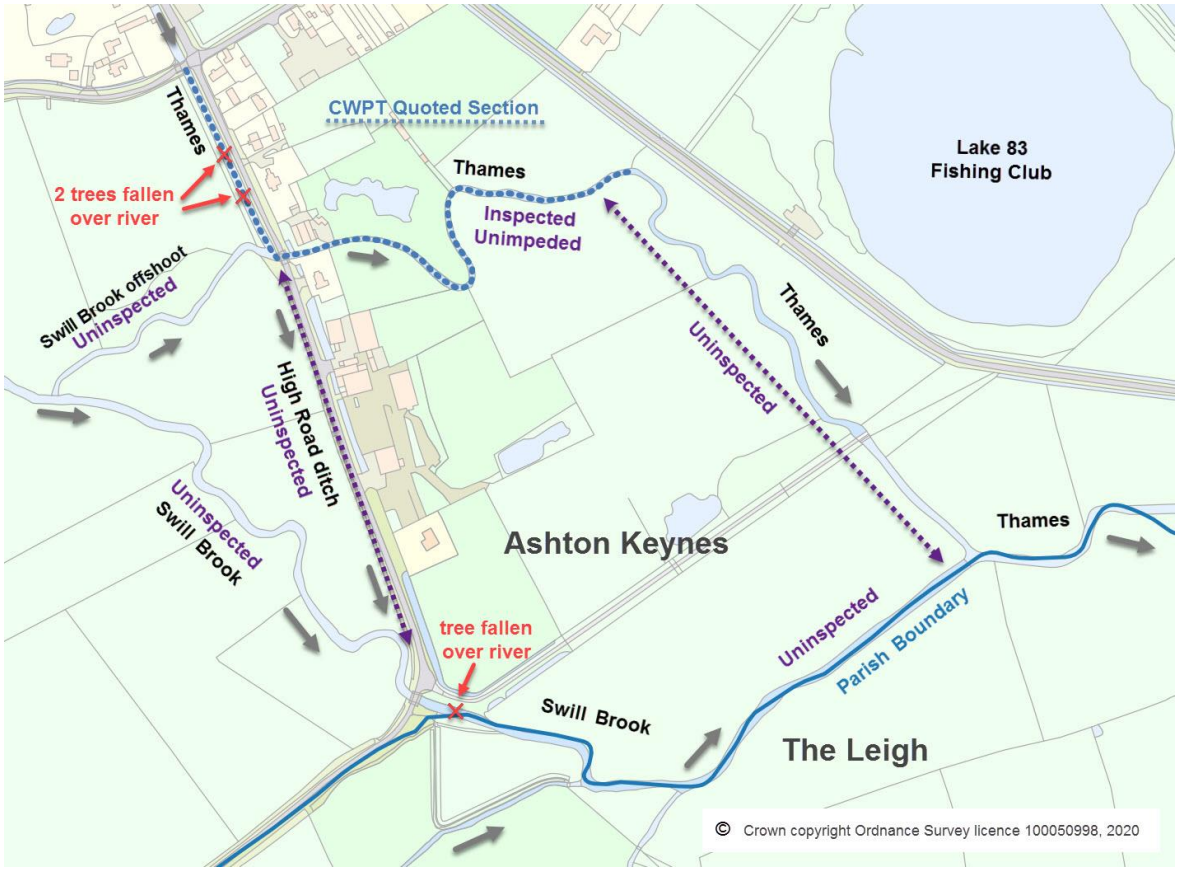

(map-5) Surface Water Flooding Depth (Environment Agency data – OS PSMA licence 100050998)




(map-6) Surface Water Flooding Velocity (Environment Agency data – OS PSMA licence 100050998)




(map-7) Riparian Owners – Southern section of the Thames (OS PSMA licence 100050998)




(map-8) Rivers and Watercourses – Southern section of the village (OS PSMA licence 100050998)