Abingdon has a history of flooding, with records dating back to 1884, 1947, 1979 and 1990. In the last 30 years, Abingdon has experienced flooding in 2000, 2003 and 2007. The flood water comes from a range of sources, including ground and surface water, as well as flooding from Rivers, mainly from the River Ock, but also from the River Stert and the River Thames. The Environment Agency maintains rivers and streams and operates weirs and locks in and around Abingdon. This work reduces flood risk in Abingdon from smaller, more regular floods, but more significant flooding cannot be reduced by watercourse maintenance alone. The Environment Agency estimate that approximately 200 properties are at risk of flooding in Abingdon. If they did not carry out their maintenance work then there would be nearer 400 properties at risk of flooding.
Options being considered

To enable us to review different methods to reduce flood risk in Abingdon, first we had to understand the flooding mechanisms for Abingdon. To do this we used improved techniques and latest flood data to update our flood modelling for the River Thames and the River Ock. The Environment Agency will use the results to update their planning flood map later this year.

We have found that all the feasible options include a flood storage area at Abingdon common. However, there is still a significant amount of investigation required, and a scheme has not yet been designed or approved.

The area which could be used to store flood water at Abingdon Common is floodplain and farmland. We have been meeting with local landowners to share the modelling results and the proposed options. To complement a flood storage area we are also looking into the benefits of natural flood management in the wider catchment and property level resilience.

We would like to know how you use Abingdon Common at the moment and if you have any ideas for improvements we could make as part of the scheme.
Reducing flood risk in Abingdon

Flood storage area

A flood storage area at Abingdon Common would reduce flood risk from the River Ock and Sandford Brook.

The map on the left shows the areas that flood from rivers without a flood storage area. The map to the right shows reduced flooding from the River Ock and Sandford Brook to properties in Abingdon due to the flood water being held in the fields to the west of the A34.

How would a flood storage area work and what would it look like?

We would build a flood embankment at the north west end of Abingdon Common to hold water back in the floodplain. The embankment would need to have culverts going through it to allow water to flow through at a controlled rate. The embankment would be approximately 1.5 kilometres long and up to 2.5 metres high. In larger floods such as seen in 2007 the flood storage area would reduce but would not be able to completely prevent flooding to all properties. This type of flooding is unlikely to be seen again in the lifetime of those who witnessed it.

The area that would store the flood water would be over 15 hectares (15 International Rugby fields) and would hold up to 2 million cubic metres of flood water, that’s equivalent to 800 Olympic sized swimming pools. The embankment would be covered in grass which would be kept short on the top to allow for maintenance.
What is natural flood management?

These are processes that enhance the natural features of a river to reduce flooding impact on a community. There are many different methods of natural flood management including:

- Improved woodlands and the creation of leaky barriers and offline storage areas to slow the flow of water into and along the river
- Connected floodplains to give excess water an area to spread out into that impacts less on people
- Improved soil quality to allow water to be absorbed as ground water, and so slow the travel of water to the river

Associated benefits

- Restoration of natural habitats and river heritage
- Diversification of animal and plant life in the area
- Creation of community spaces to enjoy and explore
- Improved flood risk for communities upstream of Abingdon

We are in the early stages of investigating options to carry out natural flood management upstream of Abingdon.
Property level resilience involves making changes to individual properties to reduce the risk of floodwater entering homes and businesses. We may decide to offer property level resilience to properties in areas to work in combination with a larger scheme.

If we think your property will benefit from property level resilience then we will contact you.

There are a number of property level resilience products, including flood doors, door barriers, automatically closing airbricks, non-return valves and sump pumps to avoid or minimise water getting inside a property.

Some products, such as door barriers, will need the property owner to install them when flooding is forecast.

Others such as non-return valves and flood doors operate automatically to provide a barrier to flood water.

Mechanisms can be fitted into drainage points on properties to ensure that water doesn’t flow back up pipes. This can help prevent floodwater getting into the home.
Reducing flood risk in Abingdon

Cost and funding

How much will the scheme cost?

£5 million estimated cost for a flood storage area

How will the scheme be funded?

£2.5 million contribution from the Vale

£2.5 million contribution from the RFCC

We are in the early stages of design so we do not know exactly how much the scheme will cost at this stage. However, we estimate that it will be in the region of £5 million to build and maintain a flood storage area on Abingdon Common.

The scheme is only possible due to partnership funding.
Reducing flood risk in Abingdon

Forward look

- Development of the flood storage area design and modelling (28 March 2018)
- Submit planning application (March 2018 to March 2019)
- Gain full business case approval (Spring 2019)
- Estimated construction start date subject to approvals (Late 2019)
- Continue to develop complementary options (2020)
- Public drop-in

Estimated construction start date subject to approvals.

To contact the project team, or to request to be added to the mailing list email enquiries_THM@environment-agency.gov.uk
Visit the Oxfordshire flood toolkit website to keep up to date with our progress https://www.oxfordshirefloodtoolkit.com/contacts/abingdon-flood-alleviation-scheme/