

Horsbere Brook flood risk management scheme update issue 2: October 2009

Latest news

Welcome to the Environment Agency's latest edition of the Horsbere Brook flood risk management scheme newsletter October 2009. This newsletter sets out the latest developments for the Horsbere scheme in the boxes on pages 1 and 2. There is also information on the outline plan of the scheme and timetable of works on pages 3 and 4.

Preferred Option

- The preferred option for the Horsbere Brook flood alleviation scheme is to provide flood storage east of the A417/A40 at Barnwood.
- At the viability stage modelling indicated that 60,000m³ of water would need to be stored to provide the optimum 1 in 100 year standard of protection. However, detailed mathematical modelling indicates that in fact more than double this volume would be required.
- Providing this standard of protection could require the excavation of in excess of 100,000m³ of earth, leading to increased costs and practical issues of how to reshape the site with excavated material.
- The excavation and spoil disposal costs make disposal off site prohibitively costly.
- To reduce the costs we are reviewing the achievable standard of protection.
- The standard of protection offered by the scheme will significantly reduce flood risk to properties and will enable insurance companies to provide flood insurance to residents.
- A number of sites initially identified for the possible provision of flood storage have been discounted for technical reasons. However, some have been discounted due to Landprices (landownership and development potential).

Outline design and modelling

- The outline design of the scheme is being progressed.
- Modelling shows that the removal of the raised north bank of the brook between Cypress Gardens and Innsworth Lane would reduce flood risk to properties in Park Avenue and upstream to Clomoney Way.

This would however increase flood risk to the open space between the brook and the A40 road.

We are therefore having to discuss this option with the landowner. This work would require legal agreement of landowners affected.

- A water level recorder will be installed at the upstream side of Clomoney Way in the next few weeks.
- We are working with Tewkesbury and Gloucestershire planning departments to encourage or compel developers to provide additional upstream attenuation of river flows. This could further reduce flood risk to properties downstream.

Latest news continued...

Reservoirs Act 1975

- The proposed flood storage area will be covered by the Reservoirs Act 1975, which provides a legal framework to ensure Dam safety. A Reservoir Panel Engineer must be involved from inception to completion of the scheme, and once operational he will undertake regular inspections for the life of the storage area to ensure public safety is maintained.
- A Reservoir Panel Engineer has been appointed.
- The Reservoir Panel Engineer has visited site and is advising on design and construction. He has advised that flood storage is not provided by the construction of embankments higher than the level of the A40 road, and has also advised that works are not undertaken during the autumn / winter period when the quality of earth works can be compromised.

Severn Trent

We are working with Severn Trent Water Ltd to ensure our Flood Alleviation Scheme and their Big Norman's Pumping Station improvement works combine together positively.

Land owner negotiations

Landowner negotiations have started; whilst a number of possible storage sites pose problems due to development potential, negotiations over land at the preferred storage location have been positive and we are confident that agreement can be reached at this site. Negotiations are continuing.

Environment and Archaeology

- The flood storage area provides an exciting opportunity to create a ten hectare wildlife haven. We are working with Gloucester City Council's Ranger Service to develop plans to manage the site as a local nature reserve; including marshes, reedbeds and wildflower meadows with access for local schools and residents.
- A geophysical survey of the proposed storage area has identified possible archaeological remains. Trial trenches will be necessary to investigate these findings, and the brook may need to be moved back on to its original line as part of this scheme.
- The Environmental Impact Assessment (EIA) consultation is ongoing.
- Habitat and species surveys have been completed.
- Vegetation removal will be necessary ahead of construction and before the bird nesting season.

Contractors on site

- We have designed the Ground Investigation and have a contractor setup to begin on site in the coming weeks, after final land access arrangements have been made.
- If you have any concerns please contact Toby Willis on 01684 864574.

Outline plan of the proposed option for flood risk management at Horsbere Brook

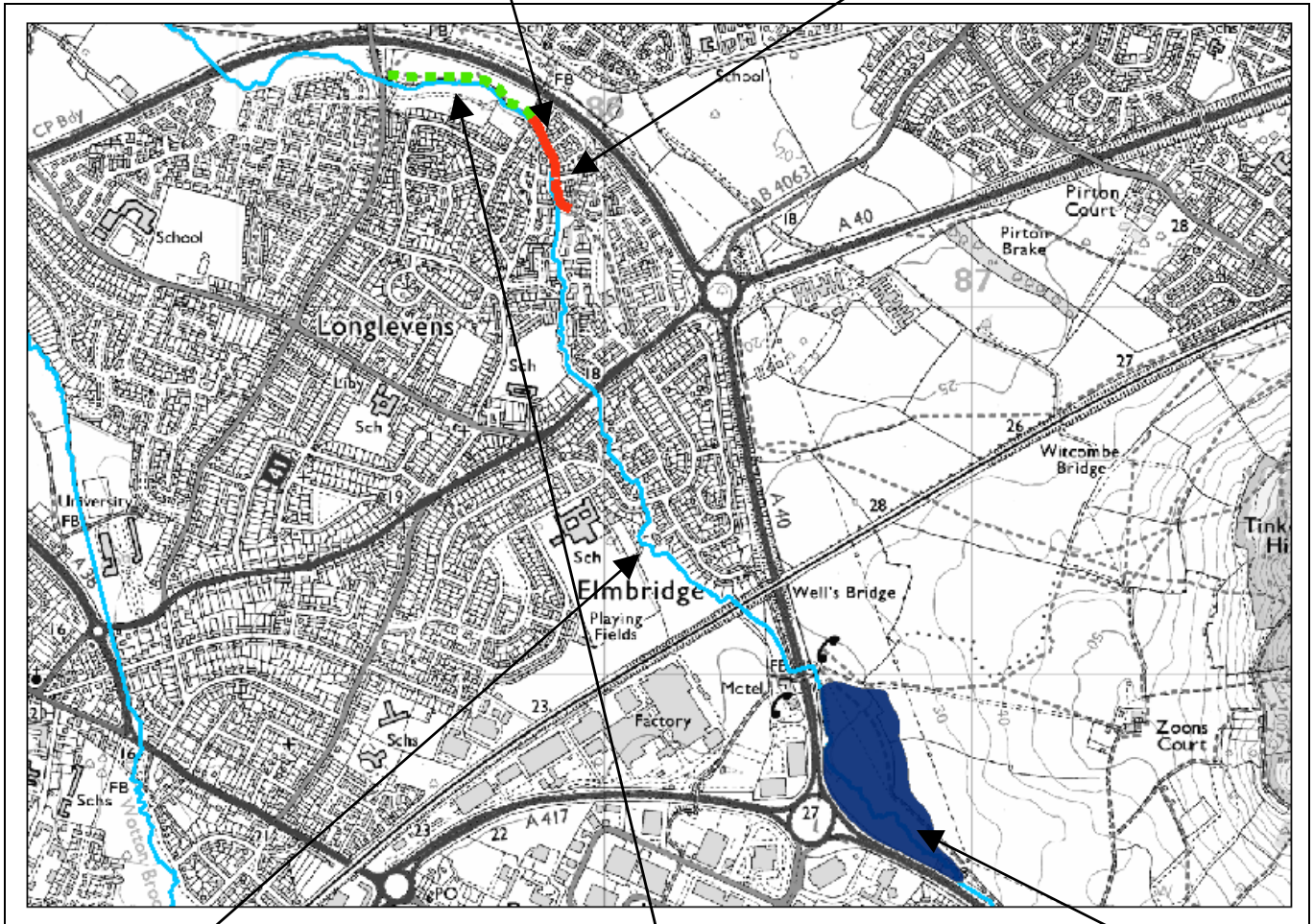
Raised defences

Modelling indicates that further ground raising is not required in the Cypress Gardens area of Longlevens because flows and water levels will be reduced downstream of flood storage. We will undertake ground investigations to determine whether strengthening works are necessary.



New Water Level Recorder

A new gauge will be installed to record water level in the Horsbere Brook upstream of Clomoney Way. This photo provides an example of what the gauge will look like. This gauge may, in time, be used to manage the proposed flood storage and/or be linked in our flood warning system.



Horsbere Brook channel

Horsbere Brook channel highlighted in light blue.



Lowering of the right bank



This green dashed line shows the length of river bank we hope to breach or remove if agreement is granted by the land owner.

Flood Storage Area



This area highlighted in dark blue shows the area where we propose constructing a flood storage area. This would involve the construction of a flow control structure and embankments, and significant excavation of material to provide the storage volume. Detailed modelling has been undertaken to determine the necessary storage volume and operation of this storage area. This more detailed modelling has highlighted the very large volume of storage required (in excess of 100,000m³).

Downstream of Cypress Gardens

Subject to landowner agreement we will breach the raised right bank in a number of locations to allow water to flow into this open space earlier. Therefore flooding open space rather than homes in Park Avenue and Cypress Gardens. Big Norman's Pumping Station is in the distance. This will be raised by STW to reduce flood risk to the PS and therefore reduce risk of sewerage flooding in the area.

Timetable of works

We would like to see the community benefit from a flood risk management scheme as soon as possible. However, providing the desired standard of protection from Horsbere Brook is technically difficult. It is important that we develop a design and business case that will receive funding, and very importantly that we construct a flood risk management scheme that will be effective in reducing flood risk to homes in Gloucester.

A number of technical items present risk to the project, and programme items such as environmental risk, landowner approval and the planning could impact the construction programme.

The expected delivery programme is set out below:

Key programme dates:

Ground investigation: Nov / Dec 2009

Submission of Business Case for approval: December 2009

Planning application: January 2010

Invitation to tender: February 2010

Removal of vegetation as necessary before bird nesting season: February 2010

Award contract: March / April 2010

Construction: Spring / Summer 2010.

Further information

For the most up to date information this newsletter and all future newsletters will shortly be available to view in the flooding section of our website at:

www.environment-agency.gov.uk

Then click on the following links: "Prepare for Flooding" → "What we are doing" → "Managing flood water" → "Flood schemes" → "Midlands schemes".

If you have any further enquiries regarding these proposals please contact:

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