
Pickering – Update for Slowing the Flow Project Board – 15 JUNE 2011

Background

As you are aware, in March 2009, following recommendations made by the Pitt Review, the “Slowing the Flow” partnership project secured £247k from Defra to look at how a range of land management practices can help to reduce flooding, as well as provide wider benefits for the local communities. One of the measures was the use of low level bunds to provide upstream storage, which was originally proposed by an academic and community group called the Ryedale Flood Research Group (RFRG). We agreed to lead the development of this measure.

The RFRG work suggested that installation of a series of low level earth bunds (1 to 2 m high) between Newbridge and Farwath, could store between 200,000 – 500,000 m³ of flood water and provide protection against larger floods, similar in scale to those of 2007.

We have a long history of involvement in Pickering and, knowing that it did not qualify for a Flood Defence Grant in Aid (FDGIA) funded scheme, we were particularly keen to be involved in such a unique partnership project. The first step was to develop a detailed hydraulic model to evaluate the suitability of the proposed locations for constructing flood storage bunds and to help inform their design.

However, once the hydraulic model was complete, it became clear that the flood storage volumes proposed by the RFRG were not available, thus offering a lower standard of protection to Pickering. This was because the high level work undertaken by the RFRG had not been able to consider the practical constraints that exist within the Pickering catchment such as the North Yorkshire Moors Railway and the nature of the river at this location. These constraints meant that most of the ten locations proposed by the RFRG could not be used to provide effective flood storage.

Project Development

The modelling work was completed in spring 2010 and the preferred option was to construct two bunds at Newtondale to store 85,000 m³ of flood water. This would be sufficient to protect 60 properties in Pickering from the type of flooding experienced in 1999, 2000 and 2002, but not that of 2007. It was considered at this stage that the scheme would be classed as low risk. The cost of the scheme was estimated to be around £950,000. We presented this proposal to Ryedale District Council's Planning and Resources Committee, who agreed to support the scheme.

Ryedale District Council voted at full council on 28 July 2010 to support that option and agreed a contribution of £800,000. Additional contributions were secured from the Regional Flood Defence Committee - £100,000 and the Environment Agency - £50,000. In addition the Environment Agency committed to lead on the project management, detail design, construction, operation and maintenance of the scheme as a benefit in kind contribution.

Throughout the development of the scheme we had been aware of the need to meet the requirements of the Reservoirs Act 1975. We therefore engaged an independent reservoir engineer in September 2010.

Our initial assessment, and the view of the reservoir engineer was, that although classed as a Category A reservoir (highest risk), we could build to a lower design standard (1 in 3000 year flood level) whilst maintaining public safety, within available budgets.

Additional modelling was undertaken to check the design and how it would respond to extreme flood events. This data was reviewed by the reservoir engineer in March 2011 and led him to conclude that there was a risk to public safety if the bunds were to fail. He therefore revised his opinion and required a further change to the design to meet the highest standard of protection, which consequently greatly increased the cost of the scheme. This opinion was checked and confirmed by a second reservoir engineer in May 2011.

Reservoirs Act / Institution of Civil Engineers “Floods and reservoir safety 3rd edition (1996)

- It is a legislative requirement that the scheme complies with the Reservoir Act 1975;
- The Act requires the appointment of a reservoir engineer;
- Reservoir Engineers are independent persons appointed by the Secretary of State and are responsible for ensuring the safety of reservoirs;
- Important piece of legislation – its purpose is to prevent dam and reservoir failures and the catastrophic flooding that could result;
- The independent reservoir engineer uses the guidance published by the Institution of Civil Engineers “Floods and reservoir safety 3rd edition”;
- The opinion of two Reservoir Engineers was sought and both identified the flood storage bunds as a Category A reservoir which should meet the highest design standard.

Current Situation

Taking into account the unusual nature of the scheme, the constraints of the site and the requirements of the Reservoirs Act 1975 for a Category A reservoir to be constructed to the highest design standard is it now clear that it is no longer possible to design a scheme within budget.

Timeline

October 2008 – Ryedale Flood Research Group (RFRG) publish Making Space for People report, suggesting that the construction of low level bunds upstream of Pickering could effectively reduce the flood risk within Pickering.

June 2009 - October 2009 – Construction of detailed hydraulic model, calibration and model review with historic flood event data. No detailed modelling existed at that time.

February 2010 - May 2010 – Detailed modelling into possible bund locations revealed that it was not possible to construct the 10 bunds proposed by the RFRG. Preferred option was to construct two bunds at Newtondale.

May 2010 – the proposed scheme falls within the Reservoirs Act 1975 (storage more than 25,000 m³). Initial advice from internal specialists, viewed as low risk.

June 2010 – Discussions with Ryedale District Council (RDC) regarding proposal, who committed £800,000 to the Pickering bunded storage option scheme.

September 2010 - formal appointment of the independent reservoir engineer who classed the bunds as a Category A reservoir. Initial assessment suggests that a lower design standard might be possible due to the presence of the North Yorkshire Moors Railway allowing a possible by-pass of flood water. Amended designs worked up on this basis through to March 2011.

10 March 2011 – Ryedale District Council agree to support an additional £150,000 for the bunded storage option, to fund requirements requested by the Reservoirs Engineer at that time, with an additional £50,000 provided by the RFDC.

15 March 2011 – New modelling showed that the reservoir could present a risk to public safety in the event of failure. Reservoir Engineer concluded that the scheme had to meet the highest design standard of being able to cope with a 1 in 10,000 year flood.

8 April 2011– Internal senior management recommendation to take a second opinion. Second reservoir engineer appointed.

31 May 2011 – Second reservoir engineer returned his opinion, confirmed the same as the first. Immediate discussions with RDC.

Communications to date

The second reservoir engineer's decision was received on Tuesday 31 May 2011. Since then, we have met with Ryedale District Council on 7 and 13 June 2011. We informed the project board, and the Wider Delivery Group on 8 June 2011.

We issued a press release on 8 June 2011 and were interviewed by BBC Radio York and BBC Look North to explain to the wider public the current impasse that the project had reached. Paul Cresswell of Ryedale District Council and Craig McGarvey of the Environment Agency were interviewed together on BBC Radio York on 14 June 2011.

Meetings were then arranged for 15 June 2011, with the Project Board in the morning and, the Wider Delivery Group in the afternoon to provide more detail and to respond to any questions.

We met with the Mayor of Pickering on 16 June and the MP Anne McIntosh on 17 May 2011.

In addition to this, we attended the Pickering Town Council meeting on 20 June 2011 and the Land Drainage Liaison Group on 27 June 2011.

Next Steps

We remain a committed partner of the Slowing the Flow project. We hope that the Board can support us in trying to find a way forward.

We have agreed with Ryedale District Council that:

1. We will reassess the current design proposal in an attempt to drive down costs;
2. We will reassess the other potential bund locations in the catchment to check their viability and whether there is scope for siting a number of smaller bunds to provide the same level of protection within the original budget;
3. We will work with partners to examine what could be achieved with the £1.3 million funding currently available.
4. We will re-examine the risk assessment and work with Defra to assess if the current guidance is appropriate.

Summary

The project represents a new approach to flood management and has succeeded in implementing a number of innovative land management measures to help reduce flood risk at Pickering. We want to be able to give the residents of Pickering something that will help them. However this was always a low level solution 1 in 25 year level of protection and would not stop all flooding in Pickering. Pickering is an area that has never met the funding criteria for a traditional flood defence scheme as it does not meet the cost / benefit ratio as set by HM Treasury. As a result an entirely different approach is being sought.

It is now clear that to progress this scheme it must meet the highest design standard under the Reservoir Act 1979. Meeting this design standard is currently outside the existing budget.

Actions

The Board is asked to:

1. Approve the narrative;
2. Agree to continue to work together to consider alternative options for flood protection for Pickering.

14 June 2011 (Revised following comments from Programme Board 07 July 2011)

Appendix 1

Historical Information – Previous Flood Defence options for Pickering

January 2001 - A feasibility study into flood defences for the town was completed recommended local defences (walls and embankments) to a 1 in 50 year standard. Other options examined included: upstream storage; channel widening; flood relief channel; removal of weirs; channel regrading.

February 2001 - The Yorkshire Regional Flood Defence Committee (YRFDC) decides to fast-track the Pickering scheme along with seven others, following the autumn 2000 floods.

August 2001 - Scheme is programmed for construction during 2002/03 financial year along with other Derwent schemes (Malton & Norton and Stamford Bridge). Application received a number of objections from the local community and was reviewed in December 2001.

August 2002 - Review of the preferred option nearing completion. Pickering was flooded again and the information gathered during this event had to be taken into account in order to find the best flooding solution for Pickering. This delayed the completion of the options review.

July 2003 - Options report completed. Found all alternative options would still require the construction of local defences to provide adequate protection.