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<p><b>PURPOSE:</b> To update the Programme Board on progress since the last meeting and outline the proposed next steps.</p>
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## **1 INTRODUCTION**

At the last 'Slowing the Flow' programme board meeting in November 2011, it was agreed that following initial modelling results, further investigations would be undertaken into the viability of creating small bunds and associated 'soft engineering' options in Newtondale, upstream of Pickering, to reduce flood risk to the town.

An update, including answers to questions received during the board meeting concerning issues such as cost comparisons with the Holnicote scheme, archaeological constraints and landowner negotiations, was provided to board members in January 2012.

This paper is presented to provide a further update on the work done to date.

## **2 PROGRESS**

In December 2011 Arup were appointed by the Environment Agency to provide expert advice on design, reservoir implications and the environmental impact of developing a viable scheme for Pickering. Arup were asked to investigate the feasibility of creating small bunds in Newtondale outside the SSSI, with a capacity less than 10,000 m<sup>3</sup>, and also the potential for storage using 'soft engineering' measures within the SSSI. To facilitate this work Arup have received a copy of the hydraulic model built by JBA to make the ensuing design process as efficient and flexible as possible. The model has since been revised using data from LIDAR technology, which has demonstrated that there is greater potential for natural storage within Newtondale than previously thought.

To date, investigations into the technical and environmental feasibility of potential flood storage areas are progressing well. There is still some remaining work to complete, including further detailed modelling, design development and associated cost assessments, in order for us to clarify potential standards of protection offered by each of the available options and thus the most appropriate solution. This is programmed for completion by the end of April, after which we will present the findings of our work at a full board meeting in early May.

As a part of our ongoing investigations and as a means to fully examine 'soft engineered' structures that are at the forefront of current engineering expertise, we are proposing to install test structures on Pickering Beck so that their hydraulic performance and environmental / hydromorphological impacts can be better understood.

In January, members of the Slowing the Flow project team briefed Ryedale District Council (RDC) and Pickering Town Council on the work we are currently undertaking. We have also made initial contact with landowners who are open to further discussions once further information and detail is available.

Members of the team looking at small bunds, including staff from the Environment Agency and Arup, have held a number of meetings with officers from Natural England (NE) and the North York Moors National Park Authority (NYMNPA) to discuss work within the SSSI. While these meetings have been positive further assessment will be required, as proposals are developed and greater detail becomes available, to ensure the acceptability of any future proposals.

Members of the Slowing the Flow Wider Delivery Group have also had a very productive meeting with North York Moors Railway (NYMR), with agreement in principle to protect the railway by building against or at least much nearer to the tracks than previously thought possible. This will reduce costs and increase the volume of water which can be stored across the valley.

The positive developments outlined above have eased some of the tight constraints on the original reservoir scheme. As a consequence, we have also asked Arup to review the original reservoir scheme to see whether the potential for reduced costs and increased storage might make a revised design viable within the available funding.

### **3 MOVING FORWARD**

Within the next month further geophysical surveys will be carried out on site and geotechnical investigations will be specified in order to inform the detailed design process. Once complete this information will be used to aid discussions with both the railway and landowners concerning construction methods, timing and potential compensation payments.

As detailed designs become finalised and discussions with key stakeholders are progressed, we will be in a position to provide a more accurate cost estimate for our proposals. We expect to have further details available for the Board Meeting in May.

### **4 PICKERING BECK – CHANNEL MAINTENANCE**

Environment Agency Operations Delivery staff will be undertaking a walkthrough maintenance survey of Pickering Beck during April. The survey will include the completion of minor maintenance work (vegetation clearance, etc) at the time of the walkover and the recording of any more involved maintenance requirements for programming/actioning at a later date.

Programmed to start on the 10 April 2012, work will begin in the Beck Isle area, and go on to cover the length of the Beck running from New Bridge to Low Mill.

**March 2012**