



Ponteland Integrated Flood Risk Scheme Reducing Flood Risk

Options Consultation

January 2019

We are the Environment Agency. We protect and improve the environment.

We help people and wildlife adapt to climate change and reduce its impacts, including flooding, drought, sea level rise and coastal erosion.

We improve the quality of our water, land and air by tackling pollution. We work with businesses to help them comply with environmental regulations. A healthy and diverse environment enhances people's lives and contributes to economic growth.

We can't do this alone. We work as part of the Defra group (Department for Environment, Food & Rural Affairs), with the rest of government, local councils, businesses, civil society groups and local communities to create a better place for people and wildlife.

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1. About this Consultation

This document explains why we are consulting and what we are consulting with you on. It is designed to help you respond to the consultation on options for reducing flood risk as part of the Ponteland Integrated Flood Alleviation Scheme.

1.1. What are we consulting on?

We are consulting on proposed options for reducing flood risk in Ponteland.

Following the consultation, we will use this information combined with other factors such as technical constraints, landowner views and economics to help us select either a single preferred option or a combination of options to then implement.

1.2. Why are we consulting?

We are consulting early to give people the opportunity to share their views on the list of potential options, as well as to share information about Ponteland that we may not already have.

We would also like to get further information on the potential environmental or recreational opportunities we could provide as part of the scheme.

In addition we want your ideas on how we can manage various parts of the scheme such as materials management, funding and construction.

1.3. Who should respond?

We think that this consultation will be of particular interest to anyone who lives, owns land or property, works in, or regularly visits Ponteland. This includes residents, businesses, recreational and commercial river users, charities, statutory organisations and members of the public.

We want to know your thoughts, comments and opinions about these potential options. You will find information on how to respond in Section 2 of this document.

2. Responding to this consultation

2.1. Consultation Dates

This consultation will start at midnight on 15 January 2019 and run for a period of 5 weeks until 23:59 on 22 February 2019.

2.2. How to respond

You can view the consultation documents and questions online at

<https://consult.environment-agency.gov.uk/north-east/ponteland-flood-alleviation-scheme-consultation>

Here you can submit your response using our online tool which will enable you to manage your comments more effectively. It will also help us to gather and summarise responses quickly and accurately as well as reduce the costs of the consultation.

We will be holding a community drop-in event on Wednesday 23 January 2019 at Ponteland Memorial Hall, Darras Rd, Ponteland, NE20 9NX.

Come along at any speak to the project team any time between 2:30pm to 6:30pm

If you would prefer to submit your response by email, please send your completed questionnaire to

enquiries@environment-agency.gov.uk

If you would like a printed version of this document and or a paper copy of our consultation questions to be posted to you, please let us know. Responses can be returned by post to:

Ponteland FAS project team, Tyneside House, Newcastle Business Park,
Skinnerburn Road, Newcastle upon Tyne, NE4 7AR

2.3. How we will use your response

We will use the feedback you give us to help us assess the feasibility of each option and help us to assess the best all-round solution to flood risk in Ponteland. We will take into account public opinion alongside the outputs of our assessment, which considers which options would be technically and economically feasible.

The Ponteland Flood Alleviation Scheme Project team will see all responses in full.

We will provide a full summary of responses on our website by 31 March 2019 and a detailed consultation report by May 2019, which will explain how comments have been used and why.

2.4. Next steps

We expect to have identified a preferred option by summer 2019.

To help us determine the best option, alongside hearing your thoughts, we will continue work to produce an updated flood risk model of the River Pont and to complete structural assessments of our existing assets.

We hope to complete detailed design of the final option during 2019. If this option requires planning permission, we will hold a pre-planning consultation before submitting our planning application. If we gain full approval for the scheme we would expect to start construction work in 2019/20.

2.5. How we will use your information

Throughout the consultation we will look to make all comments (excluding personal information) publicly available on the Environment Agency's online consultation portal. This includes comments received online, by email, and by post, unless you have specifically requested that we keep your response confidential. We will not publish names of individuals who respond, but we will publish the name of the organisation for those responses made on behalf of organisations.

If you respond online or provide us with an email address, we will acknowledge your response. After the consultation has closed a summary of the responses will be published on our website. We will contact you to let you know when this is available. We will also notify you of any forthcoming consultations unless you tell us otherwise.

In accordance with the Freedom of Information Act 2000, we may be required to publish your response to this consultation, but will not include any personal information. If you have requested your response to be kept confidential, we may still be required to provide a summary of it.

2.6. Consultation Principles

We are running this consultation in accordance with the criteria set out in the government's Consultation Principles available at: www.cabinetoffice.gov.uk/resource-library/consultation-principles-guidance

If you have any queries or complaints about the way this consultation has been carried out, please contact:

Emma Hammonds, Consultation Co-ordinator
Environment Agency Horizon House
Deanery Road Bristol
BS1 5AH
Email: emma.hammonds@environment-agency.gov.uk

3. Background

Ponteland has experienced flooding from the River Pont in previous years. In order to mitigate against flood risk in the area the Environment Agency maintains a range of assets in the area, such as flood walls, flood embankments and pumping stations.

As part of our on-going work, we are currently reviewing the condition of our assets and we are working with partners to further investigate and better understand flood risk in Ponteland.

3.1. Objectives of the Ponteland Flood Scheme

The Environment Agency and partners are working together to develop a flood alleviation scheme to reduce flood risk to properties in Ponteland.

The Ponteland Flood Alleviation Scheme aims to:

- Improve our understanding of flooding in Ponteland, with an improved model to support the scheme as well as our flood warning and incident response
- Reduce flood risk homes and businesses in Ponteland, and impacts on roads and utility infrastructure
- Seek opportunities to provide environmental benefits as a result of any scheme

Our early investigations suggest that there are flood defences in Ponteland that will need either to be repaired or replaced in the medium term.

3.2. How a Flood Scheme could work

In 2017 we assessed the viability of delivering a flood scheme in Ponteland. We continued our investigations throughout 2018 and this consultation forms part of an ongoing appraisal to determine if we are able to deliver a scheme.

In 2019 we hope to identify a preferred option (or options) which we will then consult on again. We will then gain the necessary approvals to deliver a scheme, including agreements with landowners and planning permission if necessary.

Construction, if required, would then commence in 2020, perhaps with some enabling works in 2019. Timescales may change as the project develops, we'll continue to update stakeholders as our plans progress.

3.3. Ground Investigations & Structural Assessments

We undertake regular inspections and maintenance work on flood defence assets in Ponteland. We have also made improvements to assets, undertaking repairs and raising defences where required. Some of the flood defence assets were built by us, but others were inherited after being constructed by others.

We are aware that some of these assets may need maintenance or are coming to the end of their serviceable life. In summer 2018, we had a walkover survey and then analysis carried out by our engineering consultants, Mott MacDonald.

Since then Mott MacDonald have carried out further Ground and Site Investigations including trial pits and coring through walls, to determine both existing asset condition and likely remaining asset life.

This work has focussed on the left and right banks of the Pont between the footbridge at the Memorial Hall/Waitrose and the Pontland Bridge (on the A696 at the Diamond Inn.) The final report, based on both further analysis and lab results, will be used to assess the technical feasibility of the options on the shortlist. We expect the results of this in early 2019.

3.4. Environmental Surveys

In 2018, we also undertook initial environmental surveys to help assess the options on the shortlist, and to understand the costs of options that may involve environmental permits or additional survey work.

The Preliminary Ecological Appraisal Report (including a Heritage Assessment and Tree Survey) examines any ecological constraints for the options on the shortlist, as well as any habitats for protected species. The recommendations from this report include appropriate timings to do work in the river and with any removal of trees, as well as mitigation measures for any construction work.

The Water Framework Directive Screening Assessment contains some recommendations to ensure that the proposed works will not prevent the watercourse from achieving Good Ecological Status by 2027 or result in any deterioration of its current designated status. There are recommendations about the biological elements (including fish and invertebrates), as well as hydro-morphological elements (flow quality or river width) and chemical quality elements (sediment or pollution). The report includes mitigation measures for the design and construction of any scheme.

Both of these reports will also be used to assess the technical feasibility of the options on the shortlist, and also to include environmental improvements where possible.

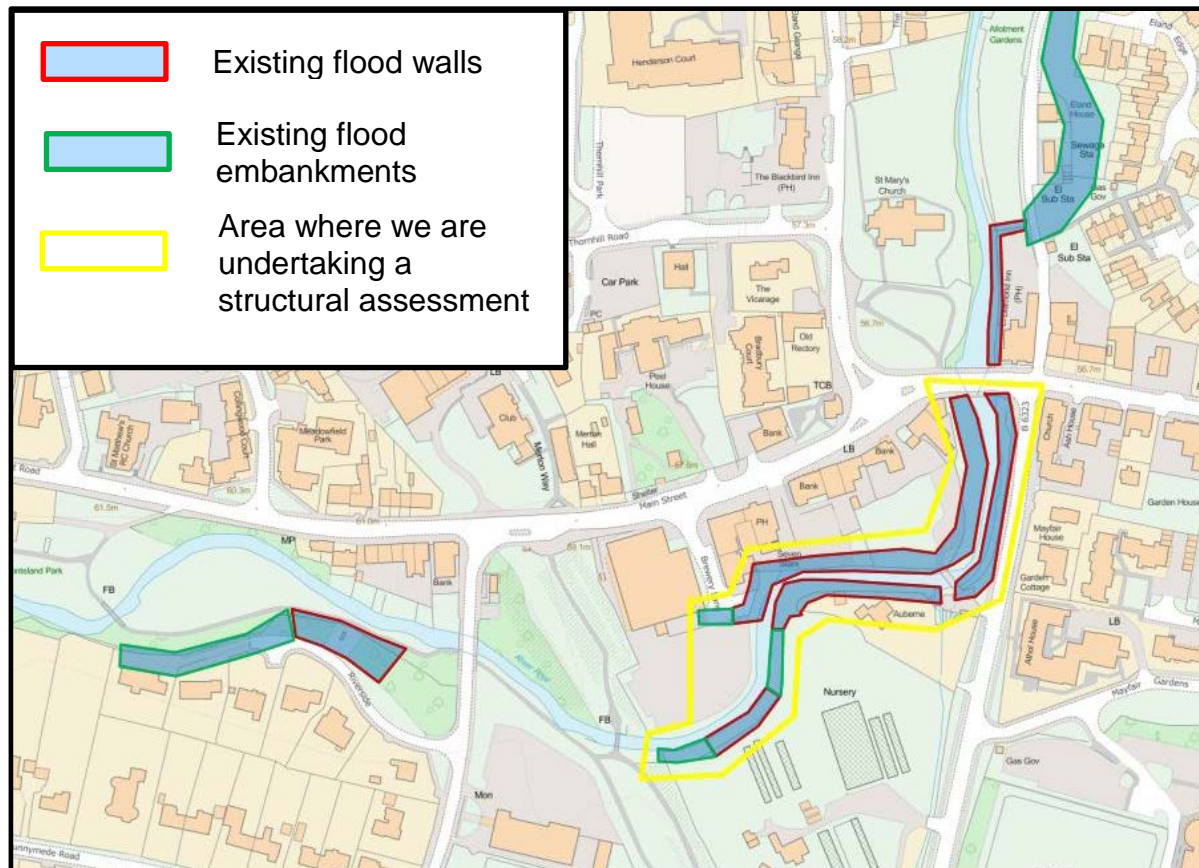
4. The Options

Our initial modelling work suggests that the current standard of protection (SoP) in Ponteland is good – around a 1% annual exceedance probability (AEP). It would be difficult to increase the SoP without raising Ponteland Bridge, which we have no plans to attempt at this time.

We are currently looking at options to sustain the current standard of protection in Ponteland. As part of this work, we will also be considering the potential impacts associated with predicted climate change.

We maintain a system of flood defence assets in Ponteland, shown on the map below.

Flood Defence Assets in Ponteland



Options 1 - 4 (detailed below) would be considered if on-going structural assessments confirm that our existing flood defence assets are nearing the end of their life and need replacement, either in whole or part.

If there was immediate danger of failure, or actual failure of our flood defences, we would carry out emergency repairs – but it is best value to replace in a planned and preventative way. Replaced assets could also have capacity to be raised in future if climate change brings higher flows.

We are also considering long-term options for work in the future (options 5 and 6 below), to deal with climate change and resulting higher flows along the River Pont.

Option 7 (detailed below) is being considered to address surface water. Should surface water risk be identified as a concern, options to mitigate current and future (with climate change) surface water risks will be considered. This element would be delivered in combination with other options to address flood risk from the River Pont.

Option 1 - Sustain: Replace embankments with similar design

This option would involve either a full replacement, or partial replacement of embankments.

Both full and partial replacement would involve rebuilding the current earth embankments to the same level, with a more conventional design. The same material would be used, but the design would see a shallower slope.

Construction would involve earthworks and a temporary defence during construction.

This option requires landowner negotiation as we do not own the land. It would involve the removal of some trees which would be replanted either on the same site or in nearby locations.



Earth embankment and wall on the right bank, near the Memorial Hall car park.)

Option 2 - Sustain: Replace embankments with walls, potentially set back

Option 2 involves building new flood walls where embankments currently exist. The flood walls would be set back further from the river's edge which would improve the ecology of the river, and could be cheaper and easier to maintain.

The concrete flood wall could be clad in a range of materials, to ensure it fits within the local surroundings. This would be need to consulted on further and potentially require planning permission.

Construction would involve earthworks to remove the existing embankment, concrete or piling to build a new wall and a temporary defence during construction

This option requires landowner negotiation as we do not own the land. It would involve the removal of some trees which would be replanted either on the same site or in nearby locations.

Option 3 - Sustain: Replace walls with similar design

If the walls on the left bank (from the supermarket down to the bridge) or the right bank (at the nursery and Auberne) require replacement or repair, then they'd be replaced with a similar design. This would involve a reinforced concrete wall, clad in either stone or brick.

Construction would involve removal of the existing wall, work to provide suitable foundations and a temporary defence during construction.

This option requires landowner negotiation as we do not own the land.

Option 4 - Sustain: Replace walls with improved design

Similar to option 3, but this would include new features to enhance both the hydromorphological and ecological diversity of the area. This could include the use of flow deflections and controlled vegetation such as floating beds, or bioengineering within the river channel.

This would help to include opportunities for environmental and structural improvements within the scheme. These would need to be tested to ensure they don't increase flood risk.

Option 5 - Climate change: Upstream storage

The Environment Agency have no plans to implement upstream storage as part of the proposed works, because the standard of protection offered by the existing defences is currently adequate.

There are many considerations to be made in developing such a proposal, including land availability and overall affordability, which would need to be further investigated before this could be considered as a viable option. As part of our business case approvals and to consider long-term planning scenarios, we are investigating how upstream storage could benefit Ponteland.

If the modelling shows this solution would help manage increased flows in future, we will undertake work in the medium to long-term to further assess this option.

Option 6 - Climate change: Raise all defences

The Environment Agency have no plans to implement raised defences as part of the proposed works, because the standard of protection offered by the existing defences is currently adequate.

This option considers raising all defences in Ponteland to help manage increased flows in the future. With this option, there would be a number of considerations to be assessed before determining if this option is viable. As part of our business case approvals and to consider long-term planning scenarios, we are investigating how raising defences could benefit Ponteland.

Raising all defences, and the bridge would be an expensive option – this modelling work will help to understand how much higher our defences might need to be in future, and to give a baseline cost to understand if upstream storage is cheaper. If the modelling shows this solution would help manage increased flows in future, we will undertake work in the medium to long-term to further assess this option.

Option 7 - Surface water options

We're working with both Northumberland County Council and Northumbrian Water to improve our understanding of how the drainage and sewers in Ponteland interact with our flood defence assets. This includes the flood embankments and walls discussed above, as well as the Callerton Burn pumping station.

Options to deal with both current and increased surface water (resulting from climate change) will be considered in combination with options 1 to 6. This could include upgrading pumping systems that operate during flood events, or introducing improved drainage or storage of surface water.

5. Key Considerations

5.1. Modelling

Computer models enable us to investigate how rivers and surface water normally behave in times of flood. We will be testing the options using modelling techniques and software to help compare the effects of each option on reducing flood risk. Once a preferred option is decided, it will be developed further before being tested again.

The modelling we use has been developed to assess how water will flow through Ponteland at times of flooding for a range of different circumstances. This includes looking at different sizes of floods as well as blockages, changes in weed growth and silt build up. It will also allow us to model the effects of climate change over the period of the appraisal.

We will share our modelling information with residents in Ponteland before the final scheme is approved.

5.2. Funding

Currently, our plan is that this scheme will be funded through Grant in Aid (GiA) and Local Levy.

The approval process for developing a scheme requires us to assess the costs and benefits of each option. Options must be cost beneficial (that they present good value for money for public spending). Our economic appraisal also ensures that schemes meet a minimum threshold for investment. If there is a shortfall, we will seek Partnership Funding from interested parties, such as local landowners and businesses.

5.3. Managing materials and construction

Another consideration in the appraisal and an important part of the consultation process (which will be repeated once the preferred option is decided upon) is to understand the impacts of the construction process.

Removing and replacing embankments can lead to the creation of spoil – material that needs to be either used elsewhere or else disposed of. This can be a significant cost to the scheme, so we would work with community to try to reduce lorry movements and find an alternative use.

5.4. Maintenance

The Environment Agency has a maintenance programme for the River Pont and other tributaries around Ponteland. This work normally involves the clearance of blockages such as fallen trees and annual vegetation removal, where it will reduce flood risk and maintain conveyance through Ponteland.

Once a new scheme is built it will have to be maintained. The funding needed to do this will come from central government. It is our ambition to design a scheme that is efficient and in keeping with the natural environment. The ongoing maintenance costs form part of the appraisal of the options.

When we know the preferred option, a more detailed maintenance plan will be developed. This is likely to include regular tasks such as weed clearance and structural inspections.

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