

Broadland Flood Alleviation Project

Protecting



Broadland

Improvement Options

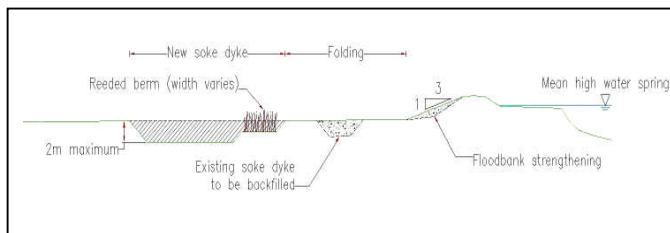
Why are improvements needed?

All floodbanks are subject to deterioration in condition. This results in a reduction in the standard of defence provided, making them more susceptible to seepage and over-topping or breach at times of flood. Many floodbanks have settled since they were built or last improved and are at risk of being overtopped by even fairly small tidal surges. This will be exacerbated by sea level rise and the potential increase in frequency of storm events.

In some parts of Broadland the existing defences are threatened due to erosion of the river edge (rond) by wind and waves, boatwash, normal river flows and the action of the tide. Although some lengths have been protected by steel or timber sheet piles, much of this was installed over the last 40 years or so and now needs replacing or removing.

The Improvements

There are three main options considered for each improvement scheme:

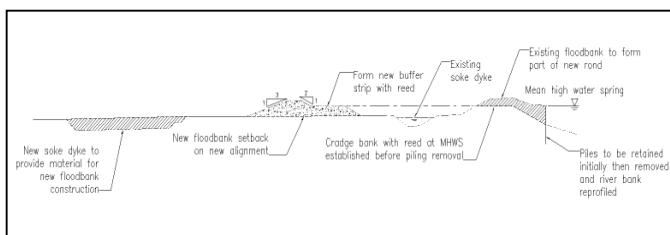


Floodbank Strengthening

This involves the strengthening of the existing floodbank in its present location by placing material on the front and/or back slope of the bank. Raising the crest level may also be necessary and this is usually achieved by placing additional clay at the time of strengthening. The material comes from either widening the existing soke dyke or excavating a new one in the grazing marsh. Typically the strengthened banks will have a 2m crest width and a back slope of between 1 in 2 and 1 in 3. Bank crests are designed to be wide enough to allow maintenance access and further topping up if necessary following settlement.

This is a feasible solution when the rond in front of the existing floodbank is sufficiently wide (generally >5m) and or piling/other erosion protection has a remaining life span of 20 years or more.

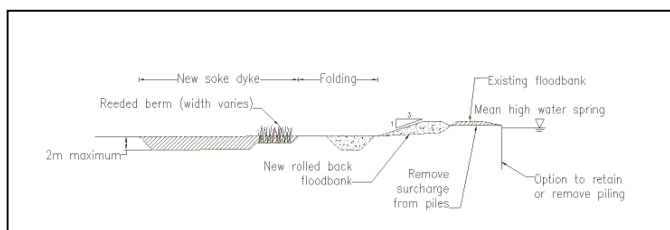
Floodbank Setback



This option consists of construction of a new clay embankment, 15m to 30m behind the existing soke dyke. The actual distance of setback depends on local erosion rates, river depth and the quality of land behind the existing floodbank. Once the new bank and rond has established the existing floodbank will be removed, the material levelled and profiled to promote a stable rond.

This is a preferred solution when the bank might become unstable due to failed piling or an eroding reed rond. Its use is subject to suitable ground conditions and availability of sufficient material from the new soke dyke construction

Floodbank Rollback



This option is similar to setback (see below), however, the distance the floodbank is moved inland is considerably less (dependent on existing soke dyke, ground conditions and width of folding). This approach reduces the amount of material required although still entails filling the existing soke dyke (for stability reasons)

This is a preferred solution when rond/erosion protection is insufficient to allow for just bank strengthening and where ground conditions do not permit full setback. It requires less material and land compared to setback and utilises the total lifespan of any existing piling. However, this relies on adequate remaining life of piles.

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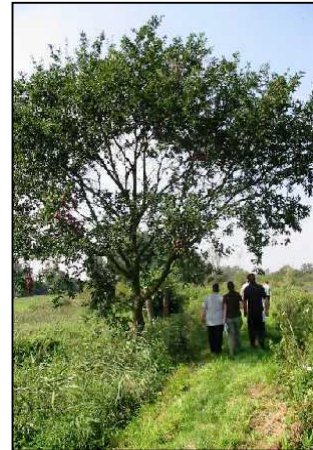
Consultation

The Consultation Process

Public participation is an integral part of the Broadland Flood Alleviation Project and the Project seeks to involve stakeholders at every opportunity. A 'stakeholder' is anyone interested in, affected by, or who can influence the project.

The Project uses a combination of methods to inform and include stakeholders in the project, including:

- Production of consultation documents and questionnaires
- Stakeholder Forums & public meetings
- Site meetings and workshops
- Presentations to committees and interest groups
- Regular meetings with the Broads Authority
- Website including access to reports



Broads Authority site visit

Why is public participation relevant to flood alleviation?

A wide range of organisations have an interest in the protection and management of the Broadland rivers and drained marshes. The knowledge and views of stakeholders can contribute to the successful design and implementation of schemes. Through consultation we can seek to avoid or minimise negative impacts whilst also providing an opportunity for enhancements and partnership projects to be identified.



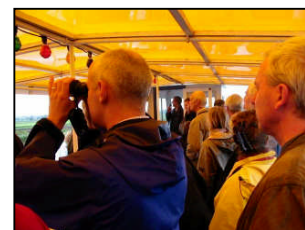
Royal Norfolk Show displays, 2002

Who do we wish to involve in the project?

The Project has developed a consultation database that contains details of over 1200 stakeholders. These include special-interest groups, businesses, statutory and non-statutory bodies, as well as over 500 landowners. This represents a significant, broad level of contact with all types of interests.



Footpath enhancement at Rockland (joint venture with Broads Authority and Norfolk County Council)



Broads Authority viewing completed works