

## **Yarm Environmental Enhancement Work Proposals**

The Environment Agency (EA) met with Yarm Town Council, residents of Yarm and a representative of Matt Vickers MP in Spring 2022 to provide an update on the Yarm Flood Alleviation Scheme. During the meeting we took the opportunity to walk along True Lovers Walk. The great work of the volunteer group was discussed, and the EA undertook to see if there was scope to deliver any environmental enhancements, which would complement the work already undertaken. The EA engaged the Tees Rivers Trust who after a site visit with the EA, identified a number of potential opportunities for enhancements.

The Tees around Yarm has historically been modified for recreational and flood protection purposes, as well as for urbanisation. Because of this, through the Water Framework Directive (WFD) several mitigation measures have been identified to help maximise the waterbodies ecological potential. To help justify EA funding, the enhancements proposed must contribute to improving the Water Framework Directive status of the waterbody, through improving the ecology. We have therefore proposed as part of this EA funded environmental enhancement work to install a number of mitigation measures. These measures will create habitat, food sources, enhance existing structures, restore natural processes, and rehabilitate sections of the riverbanks.

We are proposing for the Tees Rivers Trust to lead on this area of work and they will engage with the residents of Yarm – we hope some of the community will volunteer to get involved in the work.

All works will be subject to gaining the relevant approvals under The Environmental Permitting Regulations 2016. Landowner approval will also be sought. The installations will be securely implemented to reduce the risk of failure during a flood event.

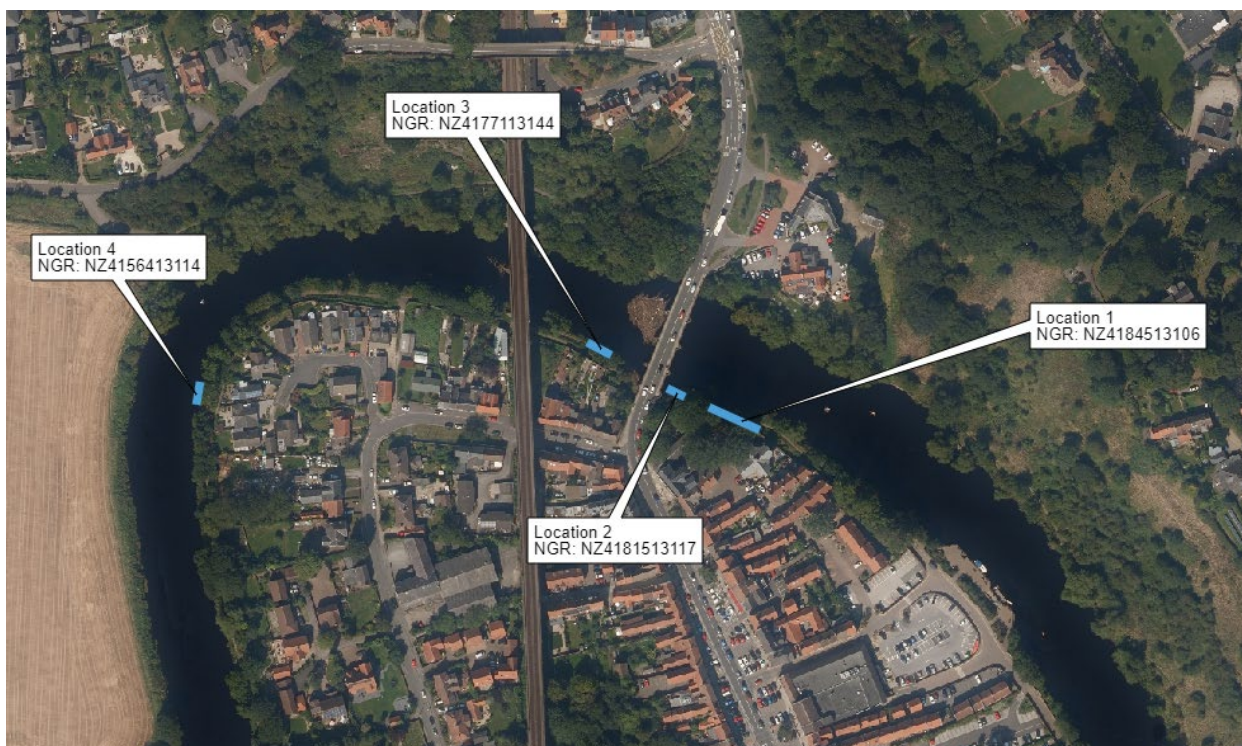


Figure 1. Map of potential intervention locations in Yarm

### **Location 1 – NZ4184513106**

Erosion is occurring along the toe of the bank, with concerns raised about potential erosion into the adjacent footpath. In order to rehabilitate the bank, it is proposed to tether some large woody debris (tree trunks) along the toe of the bank anchored in place with a combination of rebar pins through the trunk itself and some living willow stakes. Behind the tethered trunk a section of willow spiling could then be installed and back filled with soil and seeded. The tethered trunk will aid in protecting the newly installed spiling allowing it to grow and form roots into the bank helping to

strengthen the bank.

Historically coir roll has been employed on this site as remnants of the stakes used to tether it in place are still present, in some areas reeds have successfully taken root. The section of bank in question does have a willow tree growing at the top end (see figure 2 below) and it would be possible to lay some of the longer limbs back into the bank (akin to hedge laying) again to aid with the protection and rehabilitation of the bank. This proposal will improve the resilience of 20m of riverbank.



Figure 2. Images of the eroding bank and willow tree at Yarm.

Figure 2 above shows images of the sections of bank to be worked upon and the existing willow tree growing. The bank here is steep; therefore, this solution will be challenging to implement. Figure 3 below shows some willow spiling work previously carried out by the Tees Rivers Trust on another water course



Figure 3. Example willow spiling completed by the Tees Rivers Trust



## **Location 2 – NZ4181513117**

At location 2, there is an area of bank being used repeatedly as an access point by dogs, showing signs of erosion. The proposal here is to reinforce the bank surface using either a natural geotextile (coir type material) or bank reinforcement mesh to create a more purpose-built area for this activity. The lower edge of the bank could be armoured further either with a coir roll or using a timber edge (tree trunk or similar). The reinforced area of bank can then be seeded with a mixture of native and locally sourced plant species, creating valuable habitat. Figure 4 below shows coir matting before the seed has taken. Species rich planting over the coir matting, will increase floral diversity providing habitat for native invertebrates.



Figure 4. Coir matting before being seeded



Figure 5. Eroded area of bank from dogs entering the channel

## **Location 3 – NZ4177113144**

Location 3 is upstream of the road bridge. This area has had previous works installed which have now failed (see pictures below of the stakes). Replacement of the coir roll would be recommended coupled with some willow spiling to further reinforce the toe of the bank. The willow spiling will grow into the bank, strengthening the bank. The total length of this section is 15m.



Figure 6. Images of failed willow spiling at Yarm

#### **Location 4 – NZ4156413114**

Location 4 has previously had pre planted coir roll installed and these have grown to a certain degree. It is recommended that some additional coir roll be installed in this area (arrowed areas), possibly with a more diverse range of reeds. Increasing the reed area will provide a range of benefits, including additional shelter for birds and mammals, structure, food sources, and provision of localised shade and generally an increase in habitat complexity and biodiversity. The proposal should improve the resilience of around 10m of riverbank.



Figure 7. Images of pre planted coir roll which has partially grown

#### **Summary**

The proposed measures, funded by the EA, are designed to provide ecological improvement to a heavily modified waterbody. The proposals are natural, will create habitat, improve ecology and will rehabilitate around 50m of riverbank, increasing the resilience of sections of bank along the True Lovers Walk. The solutions will be implemented in a way where future maintenance should be minimal. Any future works will be the responsibility of the landowner.

**We are interested to hear your thoughts on these proposals, so if you would like to provide us with any feedback, or you would be interested in getting involved with the works, please contact the Yarm FAS mailbox at [ea-yarmfas@environment-agency.gov.uk](mailto:ea-yarmfas@environment-agency.gov.uk)**

#### **For Information**

Yarm Town Council have requested that the EA consider undertaking engineered erosion protection works on the West of Yarm, to further improve the resilience of the True Lovers Walk right of way. Wider discussions on this matter are ongoing, and we will provide any updates as and when we have them.