

Coggeshall, Feering & Kelvedon Flood Alleviation Scheme Options Considered & Partnership Working

Options Considered by the Environment Agency

Various flood alleviation schemes have been considered over the years, including:

- a) Widening the river channel considerable distances both upstream and downstream of Coggeshall (extending a distance of more than 10km) to increase the river's capacity;
- b) The creation of extensive flood storage ditches adjacent to the river (extending a distance of more than 10km);
- c) The construction of flood walls along the banks of the river both upstream and downstream of Coggeshall (extending a distance of more than 10km)
- d) The creation of a number of smaller dams and adjacent holding ditches along the river (extending a distance of more than 10km upstream);
- e) Hybrid schemes comprising dams, holding ditches and upstream tree planting; and,
- f) The creation of a large flood storage area (to provide a large extension to the flood plain) within the Blackwater valley.

The modelling studies demonstrated that the potential cost associated with these schemes was too high (environmentally and financially) and the cost-benefit ratios were too low, to publicly fund. Therefore, rather than "do nothing" the Environment Agency considered alternative options linked to potential partnership funding to finance a scheme.

For the Environment Agency to manage flooding along the River Blackwater and deal with a 1 in 100 year flood event (inclusive of climate change), they need to create a flood alleviation scheme upstream from the communities of Coggeshall, Feering and Kelvedon. Based on the Environment Agency's hydrological modelling, a low impact and passive scheme has been developed that offers the best environmental, technical and economic solution to protect local businesses and residents.

The Environment Agency are now proposing a scheme that combines the construction of an "on-line" embankment across the River Blackwater and an "off-line" flood storage area next to the river. To provide protection against the 1:100 year flood event, the combined scheme must store at least 3 Million m³ of water.

This will be achieved through the construction of an "on-line" clay core embankment (or dam) across the River Blackwater; and, the development an "off-line" flood storage area next to the river (to increase the storage capacity of the floodplain). The size and location of both the dam and flood storage area is restricted by the shape of the Blackwater Valley.

The "off line" flood storage area will be created by removing the underlying aggregates from the footprint of the site and large quantities of London Clay from the base. The height of the "on line" embankment will be limited to a maximum elevation of 33 mAOD (which will be approximately 4 m to 5 m in height within the floodplain, 800m upstream of Coggeshall Bridge) to prevent any upstream flooding.

Partnership Working

In 2015 the Environment Agency approached Blackwater Aggregates to ask for their support to create the flood alleviation scheme linked to the use of their normal quarrying operations to construct and create the flood alleviation scheme within and adjacent to the River Blackwater.

The Environment Agency and Blackwater Aggregates are working in partnership to develop the flood alleviation scheme across land under their joint control.



Blackwater Aggregates