

Broadland Flood Alleviation Project

Protecting



Broadland

Construction : Earthworks and Ancillary works

Setback Bank

- New floodbank created inland of the existing one
- Regenerates road area for erosion protection



Early stages of set back bank with line and slope profiles visible in foreground



Construction of setback floodbank

On-Line Strengthening

- Stabilisation of floodbank on existing line
- Soke dyke at toe of bank backfilled to reduce water-retaining bank height
- New soke dyke excavated to provide material for strengthening works
- Bank profiled with shallower slopes in order to improve stability and provide potential material source for future crest raising
- Wider folding gives greater stability to floodbank
- Completed banks and folding have topsoil replaced and are then seeded with a grass mix



Topsoiling profiled bank



Excavating new soke dyke

Ancillary Works

- Many jobs require work outside the scope of normal flood defence, including:
 - Vegetation clearance
 - Replacement access roads
 - Relocation of historic structures



New concrete road, Haddiscoe Island



Restoration of historical pump station, Seven Mile House (River Yare)

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Construction : Erosion Protection and Piling

Erosion Protection

- Sometimes banks must be protected from erosive effects of waves
- Can be achieved by “hard” or “soft” engineering techniques



Hydraulic pile driver

- Piling can be multi-functional:
 - Erosion protection
 - Bank retention

Hard Engineering

- Piling
- Stone-filled gabion baskets
- Generally more durable than soft engineering but also more costly



Gabion basket installation



Excavator-mounted vibrating hammer installing piles from river



Completed piles in a boatyard



Installing ground anchors



Crest piling



Soft Engineering

- Options include:
 - Asphalt matting
 - Coir rolls
 - Willow hurdles
 - Coir logs
- More aesthetically pleasing
- Blend in easily to surroundings
- Generally cheaper but less durable than hard engineering



Asphalt matting



Timber post erosion protection