

# Environmental Standard Operating Procedure 23

## Installation/Replacement of Quay Heading or Piling

Piled structures are features of the Broads' waterways where public and commercial access, between water and land, is required. The construction of new or replacement heading and piling often requires considerable bankside excavation and disturbance.

### Aim

Where soft erosion protection techniques are not appropriate, to provide a hard engineered edge to the waterway, with either steel or wooden piles and capped according to user need.

### Environmental Risk

Impact	Likelihood	Mitigation
Loss of natural riverside habitat to newly piled sections	High	Restrict new piling to high priority sites, through BA Works Licensing and Planning Permission processes
Disturbance to water voles in old sections of piling	Medium	Pre-works survey. See ESOP 10.
Inappropriate backfill material used	Low	Use geotextile or similar membrane to prevent erosion; ensure non-toxic backfill used; aim to use locally sourced sediment if suitable



### Delivery Method

- Method will alter depending on most appropriate design.
- Pre-works surveys to establish necessity and location of the most appropriate edge construction and design.
- Pre-works surveys to identify potential protected species issues, particularly water vole and reptile.
- Time works to prevent wildlife disturbance, see ESOPs 10, 11, 12 & 13.

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### Standard Procedure

- Early discussion with BA Rivers Engineer is required to determine whether a Works Licence is required;
- Limit new piling to the absolute minimum length and install only in sections where it is most needed;
- Use softer erosion protection solutions wherever possible, particularly near key habitat features, such as dyke inlets;
- Evaluate if like-for-like replacement of existing piling is necessary and explore use of softer erosion protection measures;
- Keep the top of the piling as low as possible, e.g. 200 mm above normal high water;
- Restore disturbed ground behind piling after the works have finished and encourage natural vegetation to re-establish, if subsequent usage allows.

### Consultation Required

- **Broads Authority internal** – Planners, Rivers Engineer for BA Works Licence application
- **External** – Environment Agency, Natural England if works fall within 500 m of a designated site. NB. If water voles are impacted, specific licenses may be required (see ESOP 10).

### Further Information

Broads Authority Works Licences

<http://www.broads-authority.gov.uk/boating/navigating-the-broads/works-licences>

Location of Protected Sites

<http://www.natureonthemap.org.uk/>

### ESOPS

10 – Water Vole Mitigation

11 – Reptile Mitigation

12 – Otter Mitigation

13 – Breeding Bird Mitigation