

Barn Meadow Detailed Design

Barn Meadow Pavilion

2nd March 2023

Affinity Water



FiveRivers

Why River Restoration?

- **UK river systems are highly modified from a natural state.**

Healthy rivers have:

- **Diverse Geomorphology**
riffles, pools, meanders, sorted sediment
- **Well-connected floodplains**
Resilience, flood protection
- **Rich aquatic habitat**
Biodiverse



Why River Restoration? *Ctd...*

- **Environmental Benefits:**

- Healthy ecosystems
- Enhanced biodiversity
- Improved water quality

- **Socioeconomic Benefits:**

- Buffering climate change
- Reduced maintenance
- Health and wellbeing



River Restoration Location



How does the Misbourne look in Amersham?

- Limited flow variation and habitat diversity
- Overly straight channel - dimensions not suited to current flow speed & volume
- Loss of gravel - upstream coarse sediment supply interrupted
- Lack of marginal vegetation and buffer strips





Barn Meadow



Pondwicks Meadow

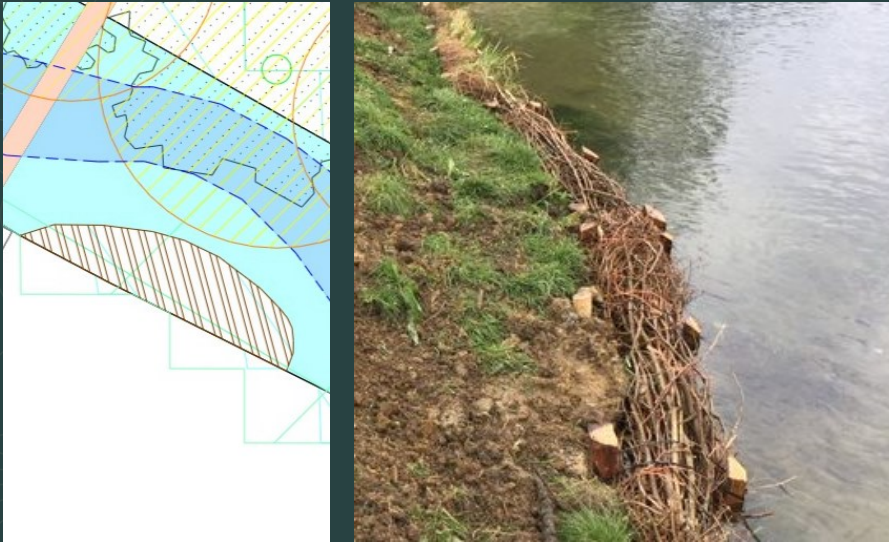
Key Considerations for a Habitat Project

- Habitat features should not impede the passage of floodwater;
- Opportunities should be sought to increase flood storage and capacity;
- Resilience to low flows is important;
- A clear management plan should be agreed with the riparian landowners.

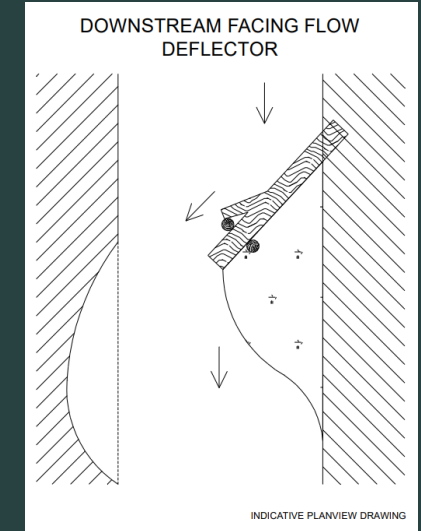
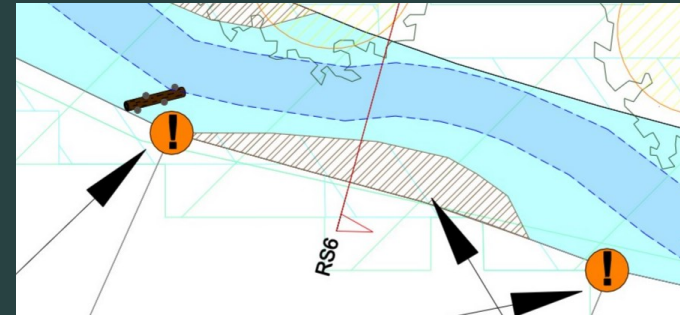


Barn Meadow & Pondwicks Meadow Detailed Design Plans:

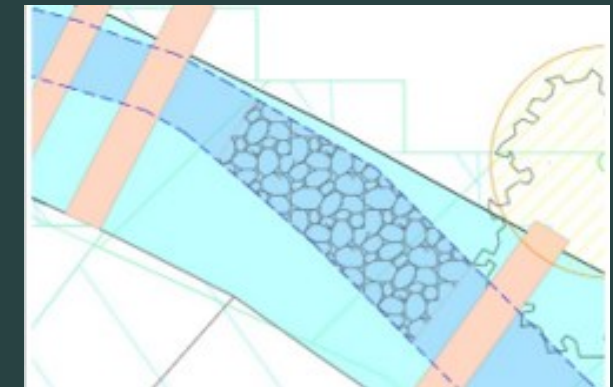
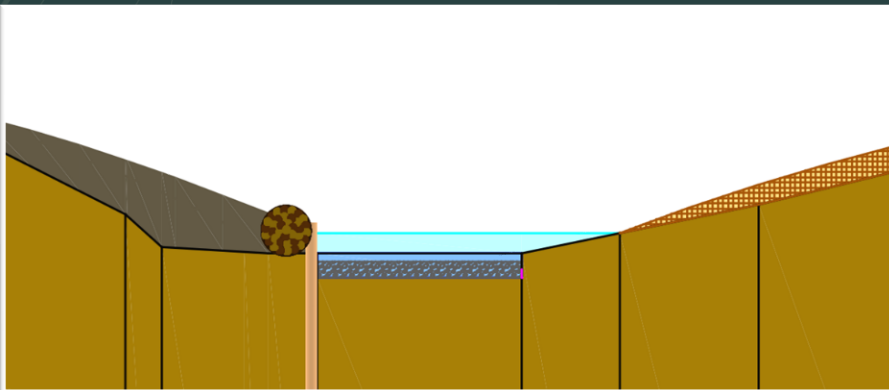
Low-level berms



Woody Flow Deflectors



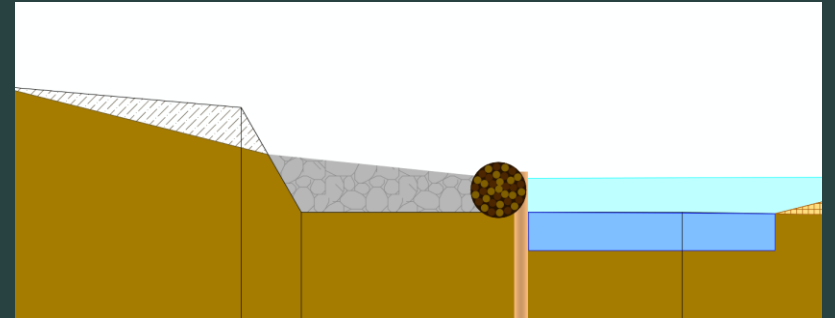
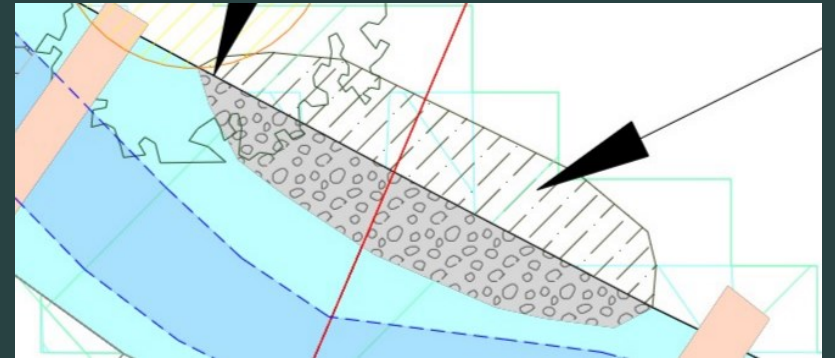
Gravel Augmentation



*Please refer to the Barn Meadows and Pondwicks Meadow River Restoration page for full detailed design drawings.

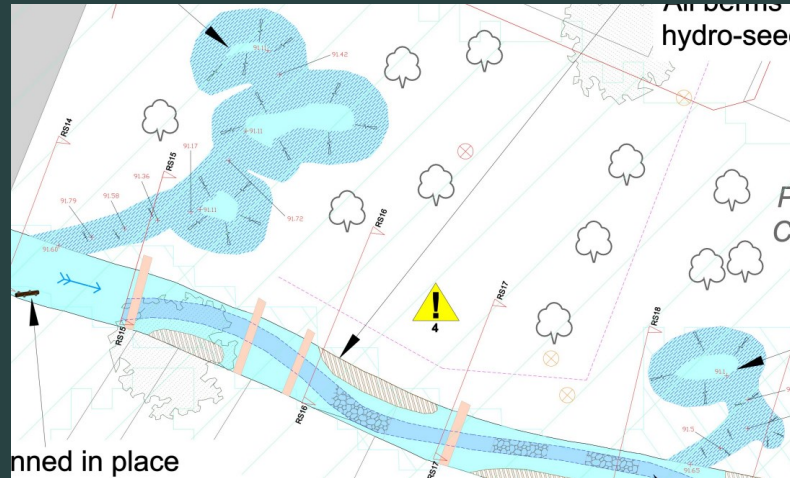
Gravel Berm in Barn Meadow

- Targeted Access Point;
- Secure and safer for public – children and dogs!;
- Rugged and durable;
- If majority of users use this access point, other areas may be less disturbed – good for nature.



Seasonal Backwaters in Pondwicks Meadow

Floodplain and connected pools extend and further diversify the local habitat and act as a wildlife corridor.



Border habitats serve niche ecological functions.

Can also help to improve water quality and store excess floodwater.



What's Changed since Outline Design?

- Removal of backwater in Barn Meadow;
- Deeper low-flow channel;
- Removal of most of the woody flow deflectors;
- Addition of another seasonal backwater in Pondwicks Meadow.



Next Steps...

Construction planned in Summer 2023, following Environment Agency approval.

