

## What are bunds and how do they work?

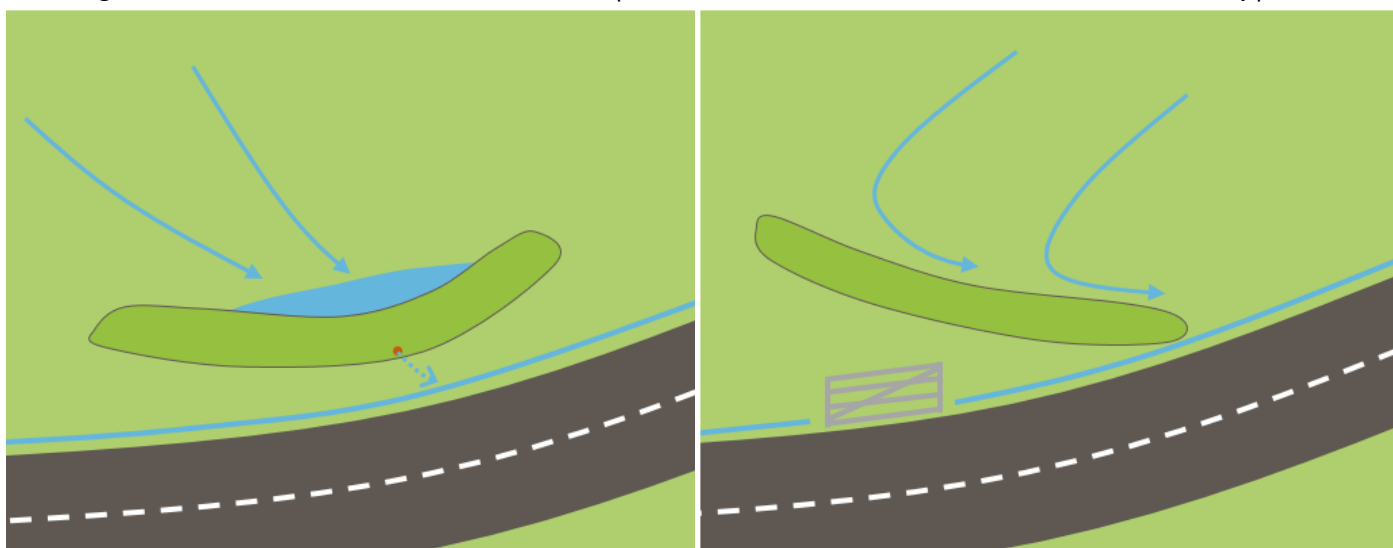
A bund is a bank created from earth, generally used in one of two ways:

- 1) Run-off interception and storage: constructed along the contour to slow and hold back field run-off and sediment
- 2) Run-off diversion: constructed at an angle to the contour to slow and divert run-off away from high risk areas

Bunds provide the following benefits by:

- reducing sediment and nutrient transport
- reducing localised flooding
- slowing the flow on a catchment-scale
- creating an opportunity for habitat creation

Note that bunds do not stop run-off and erosion within the field. Speak to our advisers about soil management to avoid erosion and run-off (*see H2L Information Sheet on Soil Husbandry*).



*Run-off interception and storage. Run-off that overtopped the ditch and floods the road is held back and slowly released into the ditch.*

*Run-off diversion. Run-off that used to flow through the gate onto the road is now diverted into the ditch.*

## Site Selection

The best sites for bunds are:

- Where run-off can be intercepted and / or diverted (FWAG SW has maps for this)
- Close to tracks to divert run-off away from hard surfaces which act as preferential pathways
- If possible, in field corners and margins to minimise loss of productive land
- In combination with ponds or other water retention features

## Design and Construction

- It is best to construct a bund when soil conditions are dry. This will a) reduce structural damage to the soil caused by heavy machinery, and b) allow the bund to stabilise.
- The base of the bund should be at least three to four times its height.

- Key in the base to the existing ground to prevent slumping or movement
- Build up the soil in 15 cm layers, compacting each layer as you go
- The shape is determined by where the water is coming from and whether it is to divert or hold water
- Consider installing a small pipe running through the bund to allow water to trickle out
- Create a low point (spillway) in the bund to allow water to overtop in a controlled manner
- Seed the bund with grass to improve stability and to limit erosion. Species should be tolerant of both wet and dry conditions (e.g. creeping red fescue with creeping bent and smooth meadow-grass)
- If erosion of the bund is a concern, consider protecting the vulnerable area with biodegradable geotextiles (e.g. coir matting).



*Bund sited in field corner, designed to intercept run-off, holding back water and letting sediment settle before reaching the watercourse*

## Management

Regularly remove excess sediment from the base of the bund, spreading it on the field.

## Bunds and your farm business

In-field bunds can be designed to have minimal impact on your farming practices and should only hold water temporarily, after heavy rainfall. Gently sloping banks not only improve bund stability but also allow you to drive over them if required and, in most cases, bunds can be grazed by sheep.

Installing bunds in suitable locations can limit mud reaching roads and watercourses.

Siting a bund in a field corner or margin is often the most appropriate place and may count as part of a buffer strip under your Ecological Focus Areas required for Greening.

Bunds are available as capital items through Countryside Stewardship (RP9: Earth banks and soil bunds) and pay £155 for each 100m of bund.

## Consents and Licences

It is unlikely that consent is required for bunds, however your FWAG SW adviser can give site specific advice on this. A waste exemption (U10) from the Environment Agency may be required when spreading silt. A discharge licence may be required if the run-off is discharged into a watercourse via a pipe. You may need consent from Natural England if the land is designated as a SSSI or in an agri-environment agreement. Your FWAG SW can give site specific advice on this.