CASE STUDY
Leaking Earth Wall Dam Stabilised

Location: Penguin, Tasmania

The Problem

The farm has an earthen-wall dam that has been leaking for many years. The leakage has made the wall potentially unstable, and has made the land at the base of it unworkable.

The owner decided to fix the problem by increasing the size of the wall by bringing in new material but the problem remained.

Note the luxuriant weed growth at the base of the wall.

The same area after being cleared and many extra loads of dirt added to increase land elevation.

The owner dug a trench to take water away but water continued to seep into the trench at the base of the wall.

The Solution

The Eastern End

Short strips of Capiphon belt laid in shallow trenches running back up towards the top of the dam. The ends of the belts were inserted into a 50mm DWV pipe laid in the existing trench, and backfilled with the spoil.



The Western End

The western end of the dam wall presented a challenge because it appeared that the water was coming down from the adjacent hillside, but a test excavation into the seepage area showed that it was, indeed, coming from the dam wall itself.

The excavation was widened a little before a PVC pipe (with an end cap) was forced into the wall on a slight upward angle as a casing. Two lengths of Capiphon pipe were inserted into this casing and given a sharp tap with a block of wood to dislodge the end cap of the casing before the casing was withdrawn leaving the soil to collapse around the Capiphon pipe. The excavation was then backfilled with the original spoil.



Results

- Base of dam wall stabilised.
- Land below the wall is now trafficable.
- More usable available.

Capiphon Advantage

- Quick and easy solution
- Minimal excavation.
- Minimal amount of gravel used
- Used only a small amount of coarse sand to cover the belt, instead of large quantity of aggregate.