

Culvert Design

Civil Engineering

Sizing a crossing, and which end controls.

Two control cases. The one needing more headwater governs.

1

Estimate the design flow

Catchment area, return period and the method your standard names.

2

Pick a trial size

Shape, material and cover depth that suit the embankment above.

3

Test inlet control

Headwater set by the inlet geometry, with flow shooting through.

4

Test outlet control

Headwater set by barrel friction and the tailwater level.

5

Take the higher headwater

Whichever case demands more upstream depth is the governing one.

6

Check scour and passage

Outlet protection, plus a bed for fish or mammals if required.

Educational reference. Culvert works on a watercourse need regulator consent and a qualified engineer.