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Water is the path builder's worst enemy. It can damage paths quickly and severely, washing away the surface and perhaps the [sub base](#) layer, and it makes the path unpleasant or even impossible to use. Roman roads incorporated beautifully-designed [drainage features](#)

, and many of the techniques used today to keep water away from a path or get it off the surface quickly are based on the same principles.

Many paths will need [ditches](#) alongside them, at least on the uphill side, to catch the water before it can cross the path. This section of one metre wide path at Oatridge College uses a clever technique called [grade reversal](#), which introduces short, shallow dips followed by slight rises in the path surface. This technique is commonly used when building mountain bike trails but is also suitable for short distances on narrow paths, one metre wide or less, to catch surface water and drain it off. Grade reversals prevent water flowing down the path from building up momentum and force that would erode the surface. The series of low points they create in the path surface also allow the water to drain quickly off and away from the path.



[The College](#) began construction and uses several catch basins and pipe [culverts](#) ,