

## C.08 Drainage

### Key Principle

The need for adequate drainage should be considered during the design of all cycle tracks, especially at tie-ins, to prevent ponding or erosion during periods of heavy rain. Cycle-friendly gully grates should always be used and care taken to ensure that gullies are not located within the path of cyclists.

### Design Guidance

Whether facilities are on or off-road it is essential that drainage measures, in particular the presence of gullies and manholes, should not present a problem for cyclists. Where facilities that channel cyclists (e.g. a cycle lane or cycle by-pass) are introduced within the carriageway, drainage gullies should be either set flush and with the gratings at right angles to the passage of cyclists or they should be re-sited out of their path. At crossing points used by cyclists, additional gullies may be required to ensure that ponding does not occur.

Where it is anticipated that on new road schemes the one metre hardstrips will be used by cyclists, these should be free of ironwork. If gullies are required they should either be side-entry or be offset from the edge of the carriageway running surface.

All cycle tracks should have a cross fall, typically 2.5%, or be of balanced profile with falls to either side to ensure that surface water does not pond. The cross fall should be arranged so that it does not create a negative camber on bends. Steep cross falls should also be avoided as they, and any form of adverse camber, can create problems in icy conditions on untreated cycle tracks. Where raised white lines (Diagram 1049 TSRDG) are used to segregate users these should have regular gaps to allow surface water to drain away.

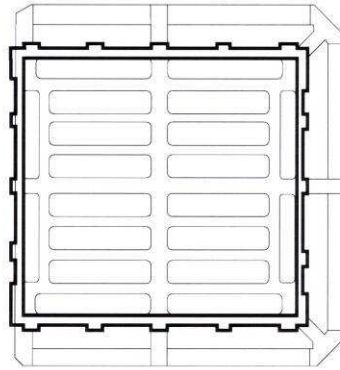
Where unbound surfaces are used the cycle track should be laid out in a manner that ensures that surface water is shed to the sides and not forced to run along the surface. This can cause erosion leading to ruts that require frequent attention.



How not to do it!

Picture: Mark Strong

**Figure 9.2.1 Gulley grating**



**Cycle friendly gulley grating**

Source: *Safer cycling by design – creating pleasant road conditions* Lancashire County Council

**References**

[LTN 2/08 Cycle Infrastructure Design](#) DfT 2008

[Cycling England Gallery](#) pictorial examples

[London Cycling Design Standards – A guide to the design of a better cycling environment](#) (Sections 3.4, 3.5, and 3.6) TfL 2005

*Lancashire - The Cyclists' County* ([part 1](#), [part 2](#)) – creating pleasant road conditions Lancashire County Council, 2005 (Section 3)

[CTC Benchmarking](#) – Best practice case studies

[Making Ways for the Bicycle](#) Sustrans 1994

[National Cycle Network – Guidelines and Practical details](#), Issue 2 Sustrans 1997

**Other references**

[Cycle Friendly Infrastructure - Guidelines for Planning and Design](#) Bicycle Association et al 1996