

FRPA Training note 03-01
Cross Drains
July 31, 2003

What is a cross drain?

If you answered that a cross drain is a culvert that relieves the ditchline you are mistaken. Although the term is often misused to describe a relief culvert, a cross drain is actually a ditch that moves water across the road and prevents the accumulation of runoff that may cause a road to wash out, or a fill to fail. Cross drains differ from water bars, in that they are typically dug into the road sub-grade so water can drain across the road without it accumulating behind the road or fill. This prevents runoff from accumulating to a level where it can saturate the fill material and cause it to fail due to the hydraulic pressure generated by the water impounded behind it. It also prevents diversion of runoff into the ditchline. Accumulated runoff exceeding the capacity of the ditch can generate sediment by down cutting the ditchline, or eroding the roadbed and cut slopes. Cross drains may also be more efficient than water bars in controlling and directing runoff away from exposed fill material, or erodible or unstable soils.

You will most likely find cross drains installed on live drainages or perennial streams along a segment of road that has been closed. They provide for drainage across the roadbed once a culvert or bridge has been removed. Cross drains may also be found on inactive roads that have been "put-to-bed" but not closed. Cross drains provide better protection from the road being washed out, or erosion or failure of a road fill, should a drainage structure become blocked or plugged. A cross drain may be installed alongside a culvert to prevent a stream from diverting out of its channel should the culvert fail.

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Relevant citations:

- 11 AAC 95.295(b), (c), (e), (g), (i)
- 11 AAC 95.305(a)(8)
- 11 AAC 95.345 (b)(5)
- 11 AAC 900 (15)