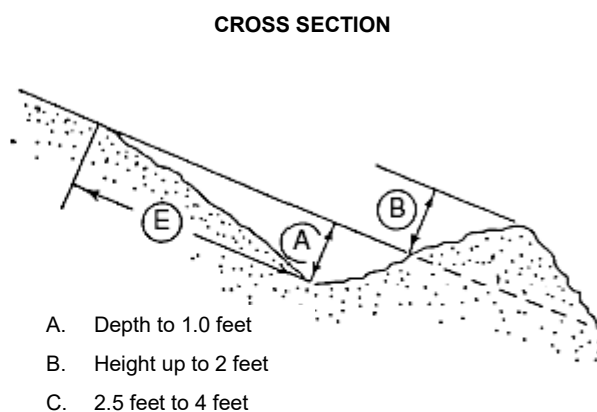
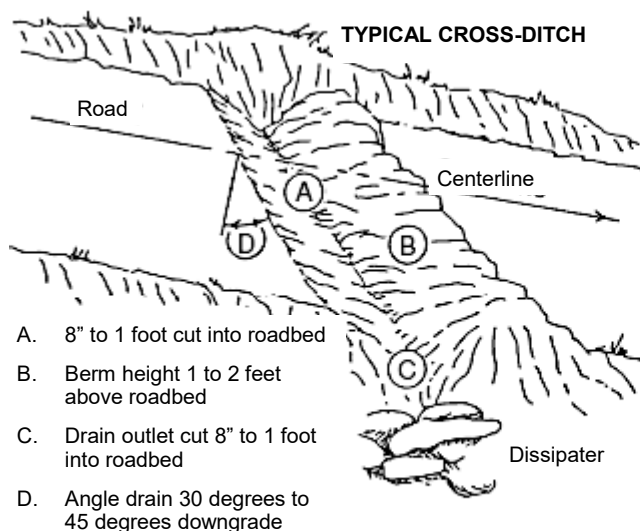


CROSS-DITCHES



Cross-ditches (waterbars) are constructed on roads, skid trails, and landings to prevent rills and gullies from forming and prevent sediment from getting into streams. The goal is to move the water across and off the road or trail where it will be absorbed into the roadside vegetation, infiltrated into the soil, and avoid direct sediment delivery to streams and water bodies.

Cross-ditches control the volume and velocity of water moving over a road or trail surface. The typical cross-ditch is illustrated below.



NOTE: On roads where periodic vehicle travel is planned, the combined height of A + compacted B should not exceed 8—12 feet

Placement of cross-ditches is critical for their effectiveness. Cross-ditches should be placed above sections of steep grades to prevent water-flow from increasing in velocity on the steep grades. They are placed above intersections of roads, skid trails, and landings. Cross-ditches placed in swales, gullies, or low areas function as dams and should be avoided.

Cross-ditches should be cut into the soil at least 8 inches and have a berm of at least 12 inches on the downhill side. The alignment should be at an angle of 30 to 45 degrees downhill across the road to the fill slope. Cross-ditches should be firmly tied into the cut slope. The outlet should be open and free-flowing onto a stable area. Runoff should be dissipated by rocks, slash, vegetation, or less erodible material, particularly on fills.

Whenever possible, cross-ditches should be constructed from the bottom to the top of the grade on roads and trails. This is done to avoid driving over the structure and flattening the berm before it can settle and firm up. Driving over new, soft or wet cross-ditches and the berms is the main cause of ditch failure.

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Forest Practice
No. 5
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CROSS-DITCHES

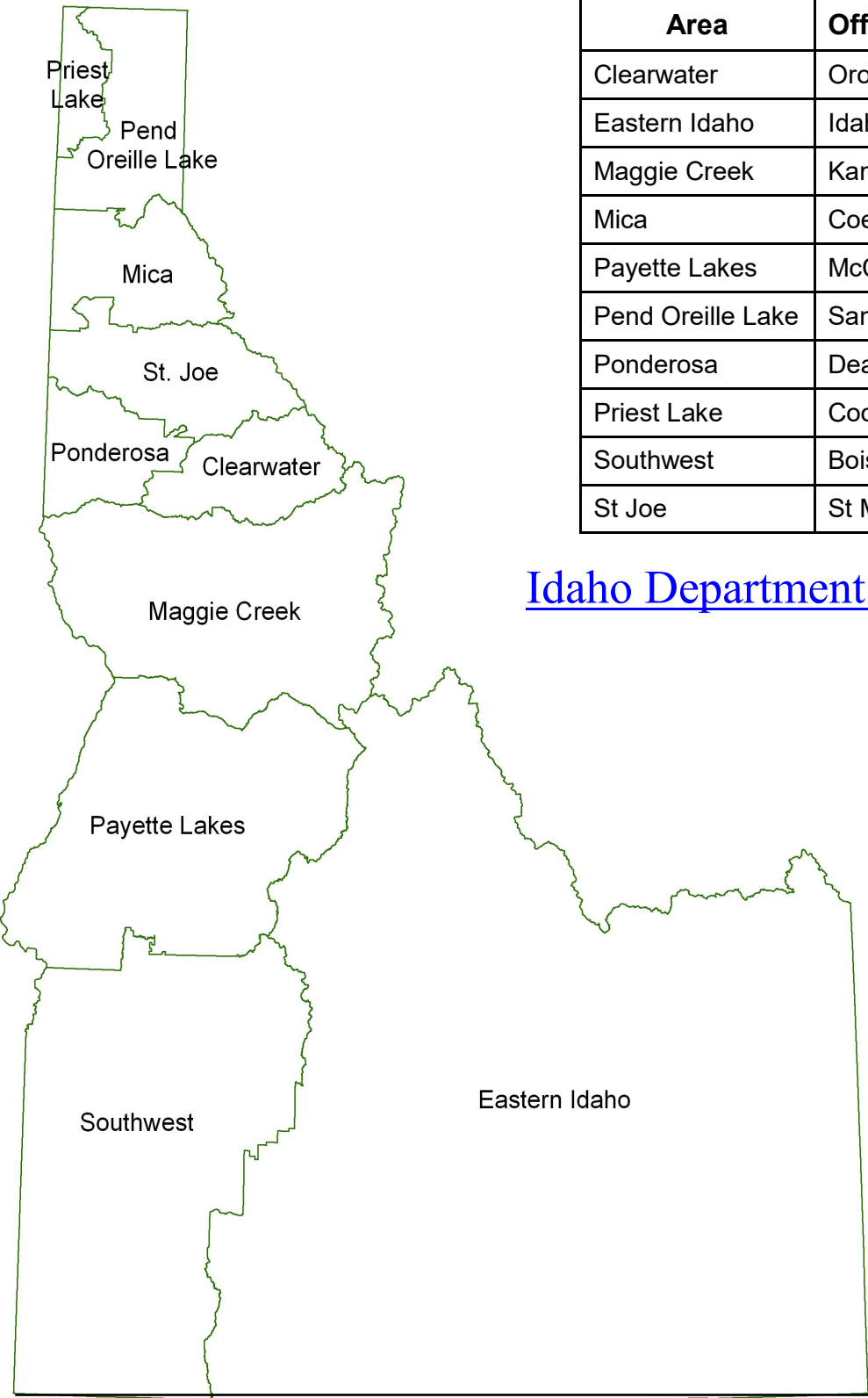
Recommended Cross-ditch Spacing Distance for Roads and Trails		
Grade of Road or Trail (%)	Unstable Soils High Erosion Hazard	Stable Soils Low Erosion Hazard
2	135 feet	170 feet
5	100 feet	140 feet
10	80 feet	115 feet
15	60 feet	90 feet
20	45 feet	60 feet
20+	30 feet	40 feet

For help in determining the soil stability/erosion hazard in your area, contact an IDL Forest Practices Advisor or your Soil Conservation District.





**FOR MORE INFORMATION CONTACT
ANY IDAHO DEPARTMENT OF LANDS
PRIVATE FORESTRY SPECIALIST**



Area	Office Location	Phone
Clearwater	Orofino	(208) 476-4587
Eastern Idaho	Idaho Falls	(208) 525-7167
Maggie Creek	Kamiah	(208) 935-2141
Mica	Coeur d'Alene	(208) 769-1577
Payette Lakes	McCall	(208) 634-7125
Pend Oreille Lake	Sandpoint	(208) 263-5104
Ponderosa	Deary	(208) 877-1121
Priest Lake	Coolin	(208) 443-2516
Southwest	Boise	(208) 334-3488
St Joe	St Maries	(208) 245-4551

[Idaho Department of Lands Forestry](#)