



This document provides guidelines for the Best Management Practice (BMP) to be considered during road deactivation and rehabilitation. Requirements are stated in legislation or in the Timber Sale Licence / Road Permit document and will conform to the BCTS Environmental Management System. In the event of any discrepancy between this guideline and contractual, legal and regulatory requirements related to forest practices or safety, the latter shall prevail.

Forest Planning and Practices Regulation (FPPR) Section 82 states:

### **Road deactivation**

**82 (1)** A person who deactivates a road must do the following:

- (a) barricade the road surface width in a clearly visible manner to prevent access by motor vehicles, other than all-terrain vehicles;
- (b) remove bridge and log culvert superstructures and stream pipe culverts;
- (c) remove bridge and log culvert substructures, if the failure of these substructures would have a material adverse effect on downstream property, improvements or forest resources;
- (d) stabilize the road prism or the clearing width of the road if the stabilization is necessary to reduce the likelihood of a material adverse effect in relation to one or more of the subjects listed in section 149 (1) of the Act.

As per the Provincial Engineering Manual, “The intent of road deactivation is to place a road in a self-maintaining state that will indefinitely protect adjacent resources. Road deactivation requirements typically include removing bridges and stream culverts, stabilizing the road prism, establishing ditchblocks on non-stream culverts and barricading the road surface width in a clearly visible manner to prevent access by motor vehicles (other than all-terrain vehicles).” This is specified in FPPR Section 82 (1)(d) for BCTS Licensees.

Road Deactivation objectives are as follows:

- place the road in a self-maintaining state that will protect indefinitely the elements at risk;
- stabilize the road prism and clearing width;
- maintain natural surface drainage patterns on the area within the road right-of-way and in adjacent or connected areas affected by the works both during and after deactivation activities;
- prevent the impact of silt and sediment transport on other forest resources;
- prevent adversely impacting water quality in community watersheds or in streams diverted for human consumption by a licensed waterworks (also, ensure that at least 48 hours notice of impending deactivation work is provided to water licensees or water purveyors in community watersheds)
- for a fish stream, provide for safe fish passage and protection of fish habitat immediately upstream and downstream, both in the timing and extent of the works;

Road Deactivation techniques are designed to reduce potential adverse effects on adjacent forest resources. Examples are cross ditches, cross ditch with ditch block, water bars and culvert removal are indicated in this guidance document. Further examples of deactivation / rehabilitation can be found in the Provincial Engineering manual:

<https://www2.gov.bc.ca/gov/content/industry/natural-resource-use/resource-roads/engineering-publications-permits/engineering-manual>



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## BCTS Kamloops Business Area Road Deactivation / Rehabilitation Guidance Document

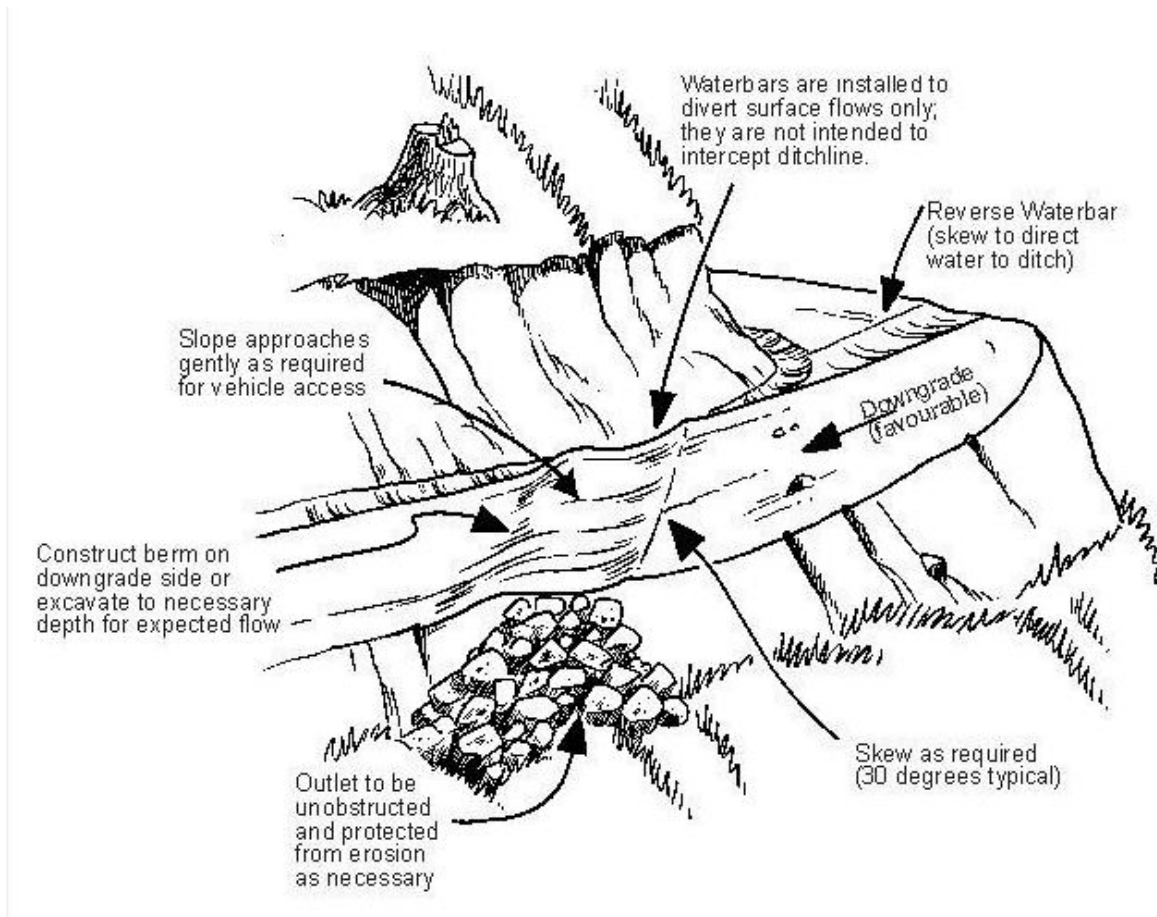


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### Waterbars

The purpose of a waterbar is to intercept surface water on the road and convey it across the road onto stable slopes below the road. Also, use waterbars to reduce the flow energy along the grade. Reverse waterbars direct flow off the road into the drainage ditch.

A waterbar is a shallow ditch across a road, skid trail, or backspar trail to prevent excessive flow down the road surface (or trail). Waterbars are not intended to intercept ditchlines; thus, the base of the waterbar is above the base of the ditch and a ditchblock is not required.



Waterbar establishment frequency can be increased with steeper road gradient and in areas where known snow levels are high. The increased frequency will reduce overall volume of water running on a road surface and where high snow packs will create a greater volume of runoff in the spring. A deep waterbar will not be susceptible to siltation filling the water control feature and should be considered in some cases.



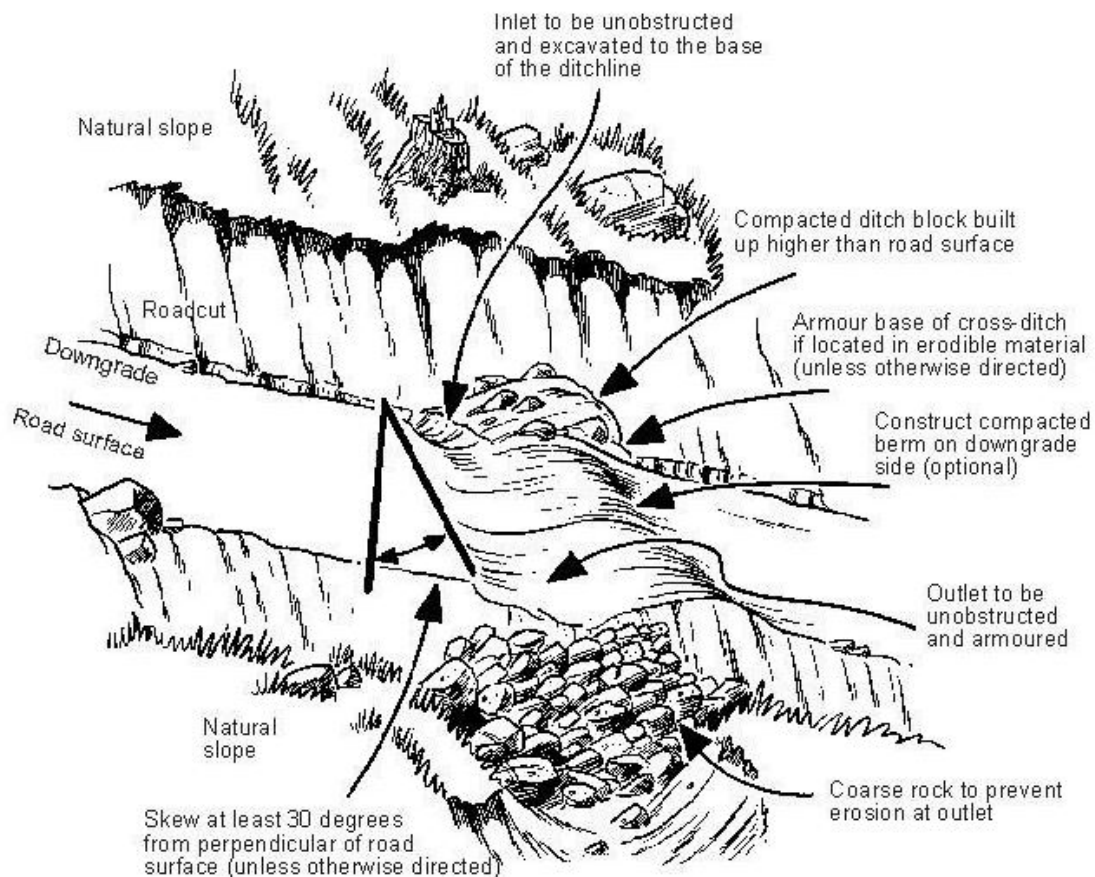
### Cross Ditches

The purpose of a cross-ditch is to intercept road surface and ditchline water and convey it across the road onto stable, non-erodible slopes below the road. A cross-ditch is a ditch across a road excavated to a depth equal to, or greater than, the depth of the ditch at the road cut. Cross-ditches generally have a berm on the lower side, and a compacted ditchback.

Install a well-compacted ditch block immediately downgrade of the cross-ditch inlet. Ensure that the ditch block is:

- higher than the road surface;
- large enough to divert all expected flows into the cross-ditch; and
- non-erodible and relatively impermeable.

Where ditchwater converges at low points in the road, construct the cross-ditch as a broad gentle swale so that no ditch block or berm is required. If constructed properly, cross-ditches are maintenance free.



Crossditch establishment should be designed relative to the risk including erosion/sediment risk, downslopes values and terrain risk. Frequency can be increased with steeper road gradient and in areas where known snow levels are high. The increased frequency will reduce overall volume of water running in a ditch and where high snow packs will create a greater volume of runoff in the spring.



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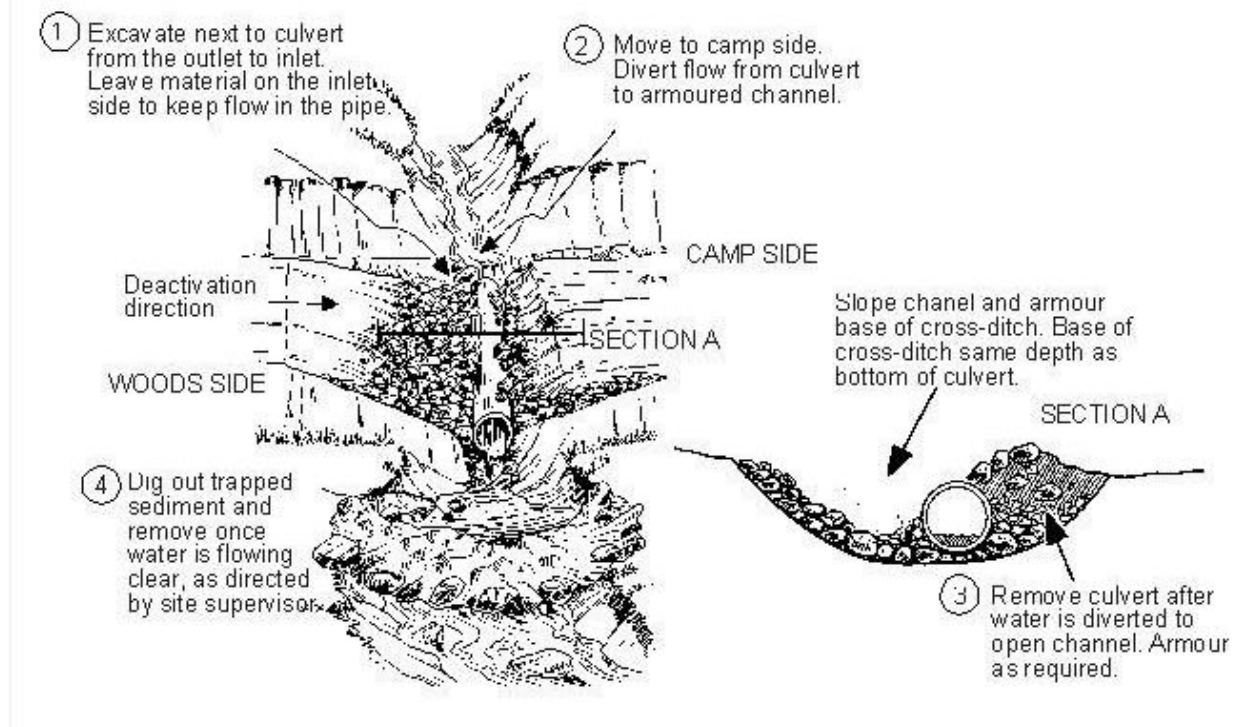
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**Culvert Removal**

Remove cross drain or stream culverts (metal or plastic pipes or log culvert stringers) and reconstruct the channel, to remove the existing culvert while creating the least amount of sedimentation possible and leaving a cross-ditch. Re-establish the natural width and gradient of the stream, and armour the streambanks (sides of the cross-ditch) and the base of the channel. The size, depth, and shape of the re-established stream crossing depend on the hillslope and creek/gully contours and expected flows.



When culverts are removed, they must be disposed at a recycling facility that accepts the material. They are not to be left onsite as this is an offense under the Litter Act.

**Road Rehabilitation**

In cases where roads are prescribed for rehabilitation after use, standards for this work are contained within the Timber Sale document and associated Schedule C or Road Permit Document Schedule R. The requirements within the clause are as follows:

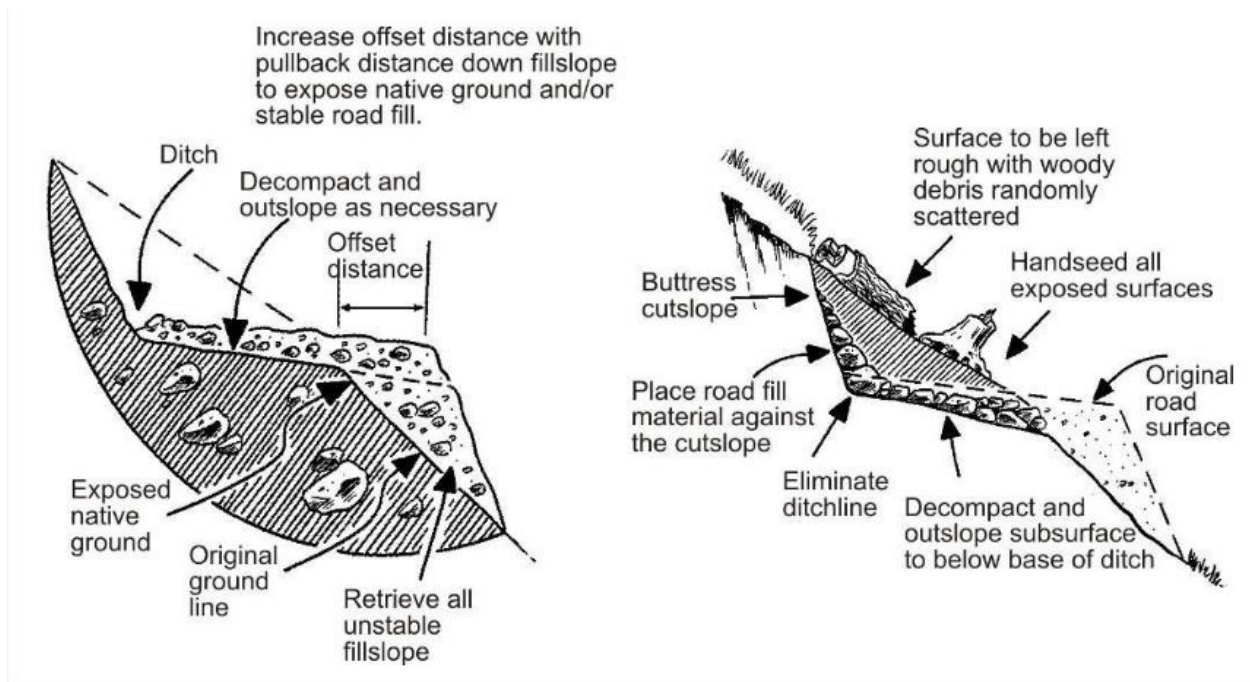
**6.00 REHABILITATION OF AREAS OCCUPIED BY ROADS (7.00 in RP)**

- 6.01 Where, in Table 1 of this Schedule, the word “rehabilitate” in column 7 appears opposite the road name in column 1, the Licensee must, before the expiry of the Licence, rehabilitate the area occupied by that road by
- (a) de-compacting compacted soils,



- (b) returning displaced surface soils, retrievable side-cast and berm materials onto the area occupied by that roads, and either
- (c) placing wood debris on the exposed soils, or
- (d) revegetating the exposed mineral soils.
- (e) FPPR 36 (3) (a) states: removing or redistributing woody materials that are exposed on the surface of the area and are concentrating subsurface moisture, as necessary to limit the concentration of subsurface moisture on the area

Where roads are established on a slope and pullback of sidecast materials is to be done, the picture below shows how this work is to be done to re-contour the cutslope.



Where roads are rehabilitated, the expectation of revegetation is completed by planting the road area with seedlings when the cutblock is planted. Logging debris is to be scattered over the rehabilitated road area.

Licensees / Contractors must comply with the Results and Strategies within approved Forest Stewardship Plans (FSP's). Where primary forest activities create an area of disturbance greater than 0.1 ha's, the Licensee / Contractors will grass seed these area using a seed or forage mixture that meets or exceeds Canada Common Number 1 Forage. These activities will reduce the spread of invasive plants on BCTS operations.