

# Diverters

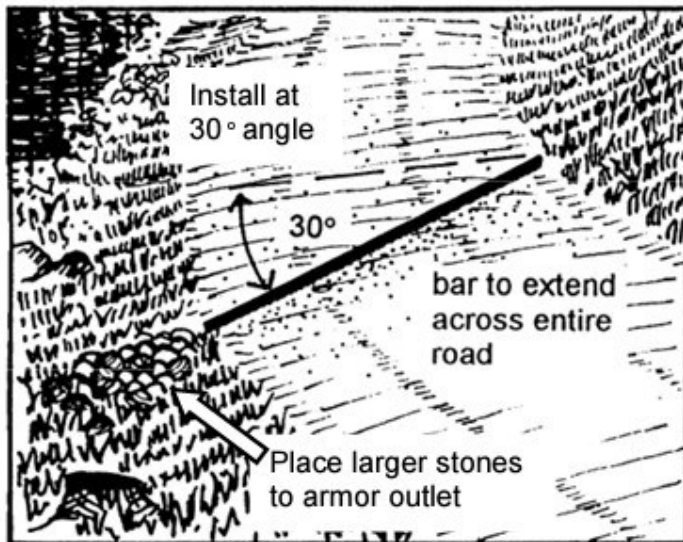


## What are diverters?

In-road surface water diverters are useful for gravel roads and driveways to divert stormwater off a road surface to prevent erosion. Three of the most common diverters include open top culverts, rubber razor bars, and broad-based dips.

## Install at an Angle

All diverters are installed at a 30° angle. For diverter length, measure the road width and multiply by 1.022.



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## Maintenance

- Inspect and remove any accumulated debris (sediment, gravel, leaves, etc.) each spring and after storms.
- Repair any damages or changes to the structure promptly to avoid erosion and safety issues.
- If road or driveway is plowed, only plow when the ground is frozen, mark ends of diverter with poles or flagging, and have the plow driver lift the plow over the diverter.



## Open Top Culvert

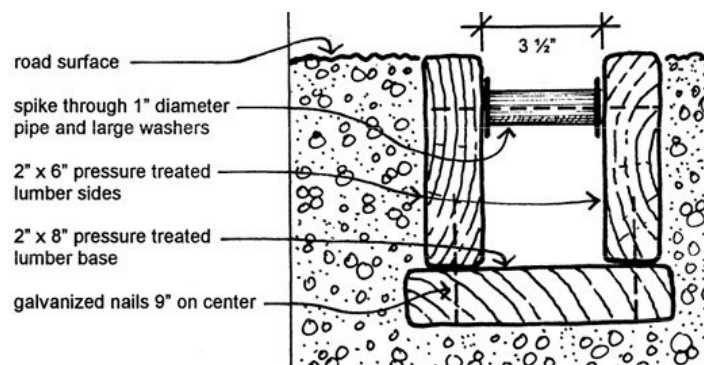
Also called a box culvert, primarily used on seasonal level roads or driveways to divert water towards a stable vegetated area.

## Materials List

- Two pressure treated 2" x 6" lumber cut to length for sides
- One pressure treated 2" x 8" lumber cut to length for base
- 3" galvanized nails for every 12" to 18" of length
- 1" diameter pipe 3-4" long every 12" to 18" with bolts, nuts, and washers
- Nonwoven geotextile fabric sized for outlet
- 4"-6" angular stone riprap for outlet

## Installation

1. Dig 8" deep by 9" wide trench at 30° angle from high side of the road to low side. Stabilize the low side outlet with nonwoven geotextile fabric and riprap before vegetation.
2. Attach pipe with bolts, nuts, and washers between 2" x 6" sides about 1" from top every 12" to 18".
3. Nail sides to base on center every 12" to 18".
4. Insert into trench so the top is flush with surface of road, then backfill and pack with road material.



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## Rubber Razor Bar

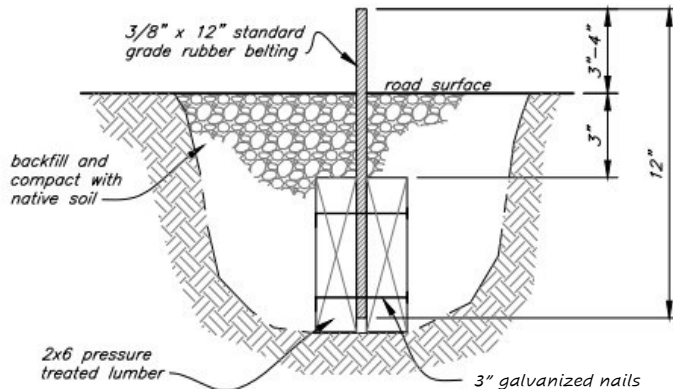
A rubber razor bar, also called a rubber razor blade or rubber water bar, is primarily used on **seasonal sloping roads or driveways** to divert water towards a stable vegetated area. The rubber ridge is typically from used conveyors belts available at local manufacturers.

### Materials List

- Two pressure treated 2" x 6" lumber cut to length
- 3" galvanized nails or decking screws
- Rubber blade 3/8" thick, 12" high, and the same length as the lumber
- Nonwoven geotextile fabric sized for outlet
- 4"-6" angular stone riprap for outlet

### Installation

1. Dig 9" deep by 5" wide trench at 30° angle from high side of the road to low side. Stabilize the low side outlet with nonwoven geotextile fabric and riprap before vegetation.
2. Nail the bottom half of the rubber blade between the two boards with 2 rows of nails spaced 6" apart down the length and insert into the trench.
3. Backfill and pack to cover the boards with 3" of road material, leaving 3" of rubber blade above the road bed.



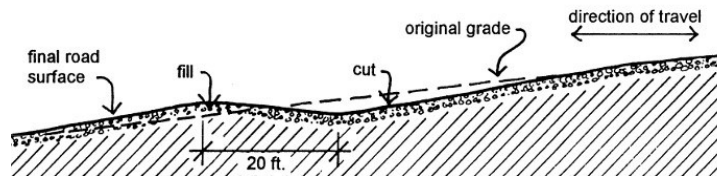
NRCS Rubber Water Bar Practice Standard

## Broad-based Dip

A broad-based dip is an angled dip in front of an earthen berm used on long sloping roads or driveways to divert water to the side.

### Installation

1. Cut into the road to make a gradual depression at 30° angle from high side of the road to low side.
2. Pile the removed road material into a berm on the downslope side of the cut. The deepest part of the cut to the highest point of the berm should be 20' apart.



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Spacing For Water Bars And Broad-based Dips	
Road/Trail Grade (%)	Water Bar Spacing (feet)
2	250
5	135
10	80
15	60
20	45
30	35

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Rubber Razor Bars