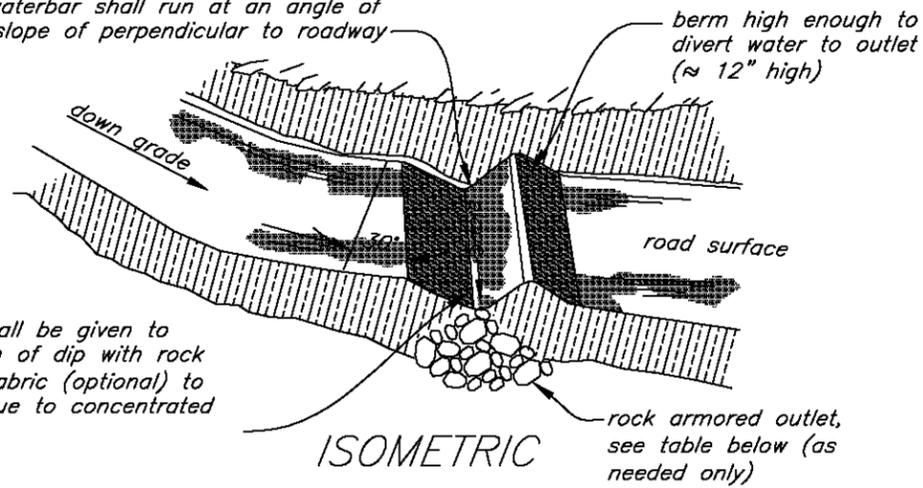


earthen waterbar shall run at an angle of 30° downslope of perpendicular to roadway



consideration shall be given to armoring bottom of dip with rock and geotextile fabric (optional) to resist erosion due to concentrated runoff

DESIGN CRITERIA

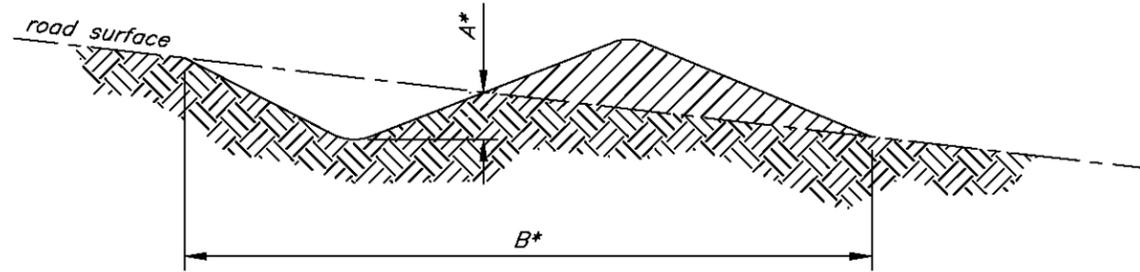
Minimum Spacing _____(ft)
 Water Bar A _____(ft) Water Bar B _____(ft)
 Rock Armoring ____ (Y/N) if yes, see Table 1 below
 Volume of Rock Armoring _____(yd³)

TABLE 1. ROCK ARMORING GRADATION FOR EARTHEN WATERBAR OUTLETS

Size of stone (inches)	Range D50 (inches)	Percent of total weight smaller than the given size
1.5 to 2.0 x D50	8 to 12	100
1.3 to 1.8 x D50	7 to 10	85
1.0 to 1.5 x D50	4 to 6	50
0.3 to 1.5 x D50	2 to 3	15

TABLE 2. RECOMMENDED WATERBAR DIMENSIONS

DEEP WATERBAR	SHALLOW WATERBAR
A = 24 to 30 inches	A = 8 to 12 inches
B = 6 to 10 feet	B = 6 to 12 feet



* Selection of waterbar dimensions shall be based on minimum vehicle clearance requirements for road users. See Recommended Waterbar Dimension Table below.

PROFILE

NOTES:

1. Earthen waterbars are for light use roads only. For heavier use, concrete, grouted rock or other durable lining material.
2. The landowner is responsible for procuring and complying with all permits and easements, including all Federal, State and local requirements. The landowner is also responsible for insuring that all work done on access roads that join state or county roads shall be in compliance with the requirements for these roads.
3. All construction operations shall be carried out in such a manner that potential erosion, air and water pollution are minimized.
4. If road has drainage ditch, extend waterbar to intercept the runoff.
5. Protect outlet area of waterbar with riprap, stone, or appropriate vegetative cover.
6. Inspect waterbars after each major runoff event and provide maintenance as needed to maintain proper drainage. See Practice Standard 560 Operation & Maintenance for additional guidance.
7. All waterbars shall begin at the intersection of the roadbed and cut slope and shall extend the entire width of the roadbed. They shall be installed at an angle of 30° downslope of perpendicular to direction of road.
8. Vegetated outlets shall be maintained with adequate cover. Reseed and mow as needed per Practice Standard 342, Critical Area Planting.
9. All waterbars shall have free flowing outlets and shall be armored at outlet. See Rock Armoring Table.

This drawing requires supporting technical documentation prior to use and must be adapted to the specific site.

Drawing not to scale

Date _____
 Designed _____
 Drawn _____
 Checked _____
 Approved _____
 Title _____

EARTHEN WATERBAR (LIGHT USE ONLY)

PRACTICE STANDARD 560 – ACCESS ROADS



File Name
 access_roads.dwg
 Drawing No. _____
 Sheet _____ of _____