

STANDARD AND SPECIFICATIONS FOR PIPE SLOPE DRAIN



Definition

A temporary structure placed from the top of a slope to the bottom of a slope.

Purpose

The purpose of the structure is to convey surface runoff down slopes without causing erosion.

Conditions Where Practice Applies

Pipe slope drains are used where concentrated flow of surface runoff must be conveyed down a slope in order to prevent erosion. The maximum allowable drainage area shall be 3.5 acres.

Design Criteria

See Figures 5A.6 on page 5A.16 for details.

General

Size	Pipe/Tubing Diameter (in.)	Maximum Drainage Area (Ac)
PSD-12	12	0.5
PSD-18	18	1.5
PSD-21	21	2.5
PSD-24	24	3.5

Inlet

The minimum height of the earth dike at the entrance to the pipe slope drain shall be the diameter of the pipe (D) plus 12 inches.

Outlet

The pipe slope drain shall outlet into a sediment trapping device when the drainage area is disturbed. A riprap apron shall be installed below the pipe outlet where water is being discharged into a stabilized area.

Construction Specifications

1. The pipe slope drain shall have a slope of 3 percent or steeper.
2. The top of the earth dike over the inlet pipe, and those dikes carrying water to the pipe, shall be at least one (1) foot higher at all points than the top of the inlet pipe.
3. Corrugated plastic pipe or equivalent shall be used with watertight connecting bands.
4. A flared end section shall be attached to the inlet end of pipe with a watertight connection.
5. The soil around and under the pipe and end section shall be hand tamped in 4 in. lifts to the top of the earth dike.
6. Where flexible tubing is used, it shall be the same diameter as the inlet pipe and shall be constructed of a durable material with hold down grommets spaced 10 ft. on centers.
7. The flexible tubing shall be securely fastened to the corrugated plastic pipe with metal strapping or watertight connecting collars.
8. The flexible tubing shall be securely anchored to the slope by staking at the grommets provided.
9. Where a pipe slope drain outlets into a sediment trapping device, it shall discharge at the riser crest or weir elevation.
10. A riprap apron shall be used below the pipe outlet where clean water is being discharged into a stabilized area. See Figure 7A.6.
11. Inspection and any needed maintenance shall be performed after each storm.

**Figure 5A.6
Pipe Slope Drain**

