

Data Sheet Explanations and Definitions For Culvert Volunteers

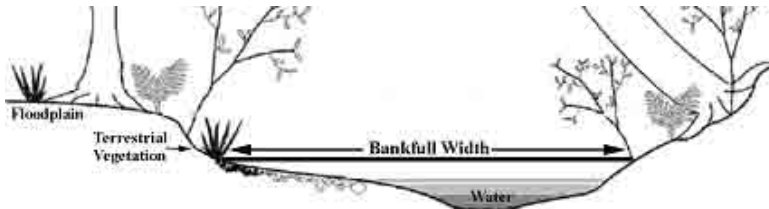
Apron: An angled extension wrapped around the bottom of a culvert that also extends up its sides.

Differs from wingwalls because an apron is bolted to the culvert and is usually metal, whereas wingwalls are along the bank and are usually concrete.

Armor: Large, durable materials (usually rocks; sometimes broken concrete, etc.) used to protect a stream bank from erosion.

Bank Erosion: Sediments being removed from the embankment by moving water. This can occur from the stream movement, or from water flowing off of a road. Look for soil with no vegetation (not including the channel bed), or deep gouges on the bank caused by the movement of the water. Look carefully at any places where the stream hits the bank before entering the culvert.

Bankfull Width: The width of the stream channel just before water spills out of the active stream channel. It can be identified by a change in stream bank slope, deposits of sand or silt above where water fills the stream channel, perennial vegetation limit, rock discoloration, and exposed roots.



Bed: The stream bottom within the Bank Full Width marks of a channel.

Channel: A natural or man-made waterway that has a definite bed and banks that confine water.

Channel Obstruction: Debris clogging the culvert, or restricting water movement through it.

Corrugated: A material is corrugated if it has alternating ridges and furrows.

Culvert shape: Refers the cross-sectional shape of the culvert. Culverts come in a variety of shapes.

Culvert Slope: Refers to the culverts vertical rise or drop from the inlet to the outlet.

Debris: Includes gravel, cobble, rubble, and boulder-sized sediments as well as trees and other organic detritus scattered about by either natural processes or human influences.

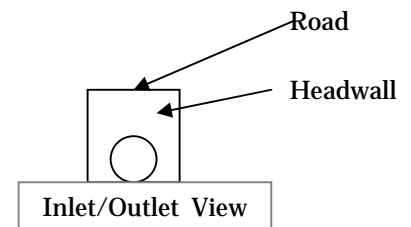
Embankment Fill: Material that can include soil, rock, and large organic debris used to cover the culvert under the road.

Embankment Slope: The steepness of the embankment measured in feet across divided by feet up.

A 1:1 slope is straight up and down (a 45 degree angle), and is the type of slope that is scary to walk up or down. A 2:1 slope is less steep, and a 3:1 slope is even less steep. You can eyeball this characteristic. Remember: “1:1 is un-fun; 2:1 can be done; 3:1 you can run.”

Fish Passage: A culvert is said to have adequate fish passage if it retains a certain depth of water, velocity of water, and distance from the ground. Different fish require different culvert characteristics to have the ability to move through them. Your observation should be whether or not you think the culvert is passable by fish. Questions to consider include: Is the water moving very quickly? Is the culvert perched, and without a jump pool? Is the water inside the culvert very shallow? A yes to any of these questions would prompt a NO answer to the Adequate Fish Passage observation.

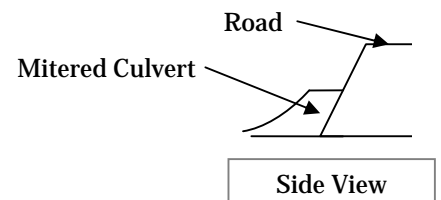
Headwall: A straight up and down wall extending up from a culvert to stabilize the fill between the culvert and the road. See diagram on right.



Inlet: Refers to the culvert’s upstream end.

Jump or rest pool: Refers to a pool below the culvert, which fish will use for resting and to get momentum in order to jump over an outlet drop.

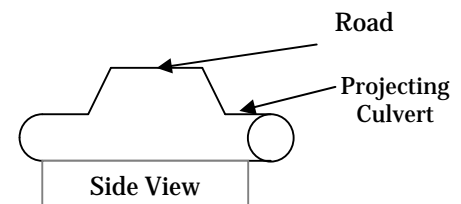
Mitered Culvert: A culvert where the end(s) has been cut at an angle to conform with the embankment slope. See diagram on right.



Outlet: Refers to the culvert’s downstream end.

Perching: The tendency to develop a fall or cascade at the outlet of a culvert due to erosion of the stream channel, downstream of the drainage structure.

Projecting Culvert: A culvert that is longer than the road it is under (is visible from the road). See diagram on right.



Substrate: Mineral and organic material that forms the bed of a stream.

Water Velocity: The distance traveled by water over some period of time. A simple way to measure this is to drop a small stick into the inlet end of the culvert; then count the seconds before it emerges from the outlet end. Report measurement A as the feet measurement and the

seconds the stick took to travel through the culvert on the data sheet.

Wingwalls: Walls that angle out from the sides of a culvert, usually triangular, used to stabilize the stream embankment, usually accompanied by a headwall. Wingwalls differ from an apron because wingwalls are along the bank and usually concrete, whereas an apron is bolted to the culvert and is usually metal. See diagram on right.

