

Stone Stream Crossing

Alabama Guide Sheet No. AL 728



Definition

A trail or travelway constructed of geotextile and stone across a stream to allow livestock or farm equipment to cross with minimal disturbance to the stream ecosystem.

General Information

Stream crossings should be considered only on streams with a bank height of 5 feet or less and where crossing use will be relatively infrequent.

Stone stream crossings should be located in areas where the streambed is stable. The crossing should be installed perpendicular to the direction of the flow in the stream.

“Cattle only” crossings can be as narrow as 6 feet. Multi-use crossings for farm equipment may be as wide as 20 feet.

Installation

Entrance and exits to the stream crossing should be 5 horizontal to 1 vertical or flatter. The stream bed should be excavated so that the finished surface of the crossing is no higher than the stream bed upstream and downstream of the crossing. Crossings that are installed in free flowing streams should be completed from one side to the middle of the stream first. Then the other side completed. This will minimize disturbance to the stream ecosystem.

Diversions may be needed near the entrance and exit to the crossing so that surface water runoff does not enter the crossing.

The geotextile fabric is placed on the excavated surface and held in place with steel rebar-size pins. The geotextile used for this application is a non-woven, non-heat bonded, and needle punched material. The class or grade of fabric will be determined by the technician or engineer according to the design.

Properly sized riprap is placed on the geotextile to the designed thickness. Larger sized riprap will be needed for faster velocity streams. Construction equipment should not operate directly on top of the geotextile surface while placing the riprap.

Crossings used by cattle will need about 4 inches of surfacing material, like crusher run, on top of the riprap to provide a smooth walking surface.

Each side of the crossing should be fenced so the cattle will be restricted to the protective rock surface, eliminating unrestricted access to the stream. However, the cattle will be able to drink water at the stream crossing location. Electrified hanging chains have proven to be an effective and minimal maintenance type fence used in conjunction with stream crossings.

Shade should be eliminated in the immediate vicinity of the crossing so that cattle will not have a tendency to loaf in the stream at the crossing location.

Operation and Maintenance

In order for the stream crossing to provide protection to the stream ecosystem, the riparian zone for the stream should be fenced, with cattle access only at the crossing.

Storm runoff may deposit debris at the crossing location which will need to be removed. Surfacing stone may occasionally need to be replaced. Fence repair and maintenance may be needed.

References

NRCS AL Conservation Practice Standard
Code -561, Heavy Use Area Protection
Code -728, Stream Crossing

AL NRCS Guide Sheets
AL-561, Heavy Use Area Protection

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