



Natural Resources Conservation Service

## Geotextile and Stone Heavy Use Area Protection

Alabama Job Sheet No. AL561



### Definition

The protective treatment of areas that are frequently used by cattle or farm equipment with geotextile and stone.

### General Information

Heavy use area protection can be used for:

- stream crossings for cattle or farm equipment,
- around cattle watering troughs or tanks,
- around locations such as hay rings, feeding troughs, or mineral boxes,
- pond or stream watering ramps for cattle,
- cattle feedlots or walkways,
- loafing areas for dairy cows, or
- farm roads.

Geotextile and stone has proven to be one of the best types of heavy use area protective treatments

The geotextile fabric used for this application is a non-woven, non-heat bonded, and needle punched material with a Grab Tensile Strength and Puncture Strength of 157 lbs. and 309 lbs., respectively.

Stone for heavy use area protection should consist of an approved crushed stone (See Table 1 in Alabama NRCS Conservation Practice Standard Code 561, Heavy Use Area Protection). If larger stone is used, it should be topped with at least 1-inch of smaller graded aggregate base material to provide a smooth walking surface for cattle. Stream crossings

may require small riprap size stone for stability. If cattle use the crossing, the riprap should be topped with about 4 inches of a finer graded aggregate base.

Heavy use area protection around watering troughs or tanks, hay rings, feeding troughs, or mineral boxes should gently slope away from the facility and extend at least 10 feet out from the facility (6 feet for small ruminants). A "cattle only" walkway should be at least 8 feet wide. Stream crossings can be as narrow as 6 feet or as wide as 20 feet, depending on the purpose of the crossing. The finished surface of the heavy use area protection should be flush with the natural or constructed ground.

### Installation

Areas to receive heavy use area protection should have all mud, manure, and other debris removed. The aggregate to be placed for most applications will be 6 inches thick. Stream crossings may require more thickness due to the size riprap needed for stability. Excavation is necessary to acquire a smooth transition from the protected area to the surrounding area. Any depressional areas should be smoothed prior to placement of the heavy use area protection so as not to pond water.

The geotextile should be placed with edges of fabric overlapping at least 12 to 18 inches. The fabric should be held in place with metal staples provided by the manufacturer. Staples are generally placed every 5 feet within the fabric surface and 3 feet along overlaps. Geotextile used for stream crossings is held in place with larger steel rebar-size pins. Stone is then placed on the geotextile fabric. Construction equipment should not operate directly on the fabric surface.

NRCS, AL  
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### **Operation and Maintenance**

Feedlots and loafing areas will occasionally need to be scraped to properly dispose of manure accumulations. Stone around watering facilities will occasionally need to be replaced.

Stream crossings will require maintenance after major runoff events. Surfacing stone may need to be replaced and debris removed from the crossing.

Fencing should always be utilized with stream crossings, watering ramps, loafing areas, feed lots, etc. Fencing should restrict the cattle to the heavy use area protective surface in order to protect the surrounding soil and water resources.

### **References**

NRCS AL Conservation Practice Standard  
Code - 561, Heavy Use Area Protection  
Code - 578, Stream Crossing  
Code - 614, Watering Facility

AL NRCS Guide Sheets  
AL-578, Stone Stream Crossing  
AL-614, Watering Facility for Livestock

## Geotextile and Stone Heavy Use Area Protection Worksheet

Land User: \_\_\_\_\_ County: \_\_\_\_\_ Date: \_\_\_\_\_

Farm No.: \_\_\_\_\_ Tract No. : \_\_\_\_\_ Assisted by: \_\_\_\_\_

Practice which heavy use area is being applied on: \_\_\_\_\_

Type of traffic (vehicular, animal, human): \_\_\_\_\_

Dimensions of heavy use area: Length \_\_\_\_\_ ft.

Width: \_\_\_\_\_ ft.

Geotextile fabric needed: \_\_\_\_\_ yds.

Stone needed: Rock riprap \_\_\_\_\_ in., Class \_\_\_\_\_, Tons \_\_\_\_\_

Graded aggregate base \_\_\_\_\_ in., Type (57, etc.) \_\_\_\_\_, Tons \_\_\_\_\_