

3.5 ENERGY DISSIPATOR



Figure 3.10. Energy dissipator (Source: Iowa DOT)

Overview

Description: An obstacle placed at the outlet of drainage pipes or where a rapid flow of water needs to slow down in order to prevent erosion.

Problem identification: Excessive flow quantities and velocities cause erosion at the outlet of drainage structures. Control measures are needed to reduce water velocities at this location.

Design purpose: To control erosion and reduce the velocity of runoff water.

Associated practices: Used with measures that carry water and sediment; reduces velocity for streambank protection; used at outlets of pipes.

Installation: A wide range of materials can be used as energy dissipators, depending on the flow. Lighter to heavier flows can be handled with seeding, excelsior mats, or sod. In more demanding areas, control may be achieved by using riprap, boulders, or gabions. Regular construction procedures must be followed to achieve success.

Maintenance/inspection: Review control measure after each precipitation event.

Design life: Permanent.

Estimated cost: Riprap costs \$32.20 per ton (2004).