3.7 ROCK CHUTES AND FLUMES

Figure 3.12. Flume (Source: Urban Resources and Borderland Alliance Network)

Overview

**Description:** A device to carry water in an open structure to a lower level without erosion.

**Problem identification:** Permanent control devices are required to convey runoff along the bottom of slopes without causing erosion and sedimentation. These devices must reduce velocities and maintain discharge.

**Design Purpose:** To carry storm water runoff on a permanent basis without erosion.

**Associated practices:** Used with other control measures to dispose of storm water runoff.

**Installation:** A variety of materials can be used, depending on the volume of water that needs to be transported. For a small volume of water, a sod flume can perform satisfactorily. Other materials include half-round pipe, riprap underlaid with filter fabric, and paved flumes. Each needs to be constructed on firm, well-compacted soil.

**Maintenance/inspection:** All types of flumes need to be inspected after precipitation events for any necessary repairs or adjustments.

**Design life:** Permanent.

**Estimated cost:** Sod costs $49.00 per square (2004); riprap costs $32.20 per ton (2004).