

Chapter 3 - OVERVIEW OF EROSION, SEDIMENT, AND STORMWATER CONTROL PRACTICES (BMPs)

GRADE STABILIZATION STRUCTURE

Grade stabilization structures are used to control the grade in natural or constructed channels to prevent erosion. They may be vertical drop weir spillways, chutes, or pipe drop structures and may be made of reinforced concrete, steel sheet piling, concrete block, riprap, corrugated metal, plastic, or concrete pipe, depending on site conditions.

Grade stabilization structures control head cutting or major gully erosion in channels on steep slopes, in locations where beds of intersecting channels are at different elevations, and where **flatter grades are needed** in proposed channels to control velocities.

Locate these structures in straight channel sections. Stabilize foundation materials, and ensure that flood bypass capability is available to protect the structure from flows greater than design. The design of large structures (100 cfs or larger) should be undertaken only by a qualified engineer, experienced in hydraulics and structural design.

Maintenance of grade stabilization structures should be minimal, but it is important that inspections be made periodically and after all major storms through the life of the structure.



Grade stabilization structure prevents head cutting in a vegetated channel.