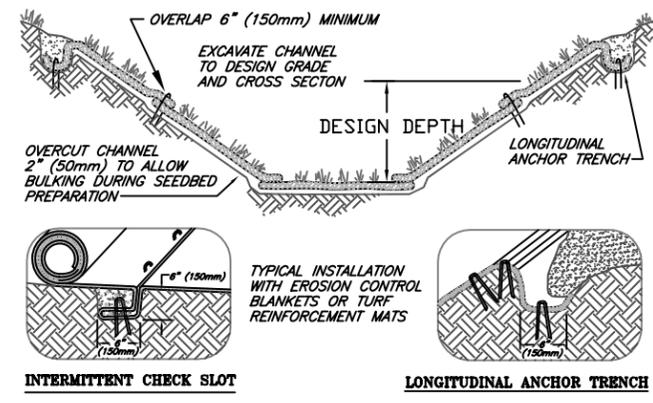
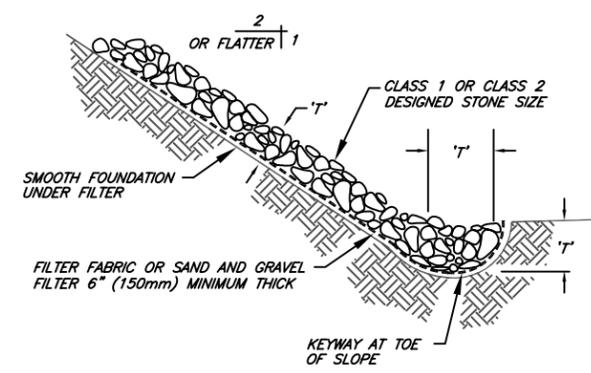


TYPICAL V-DITCH CHANNEL CROSS-SECTION



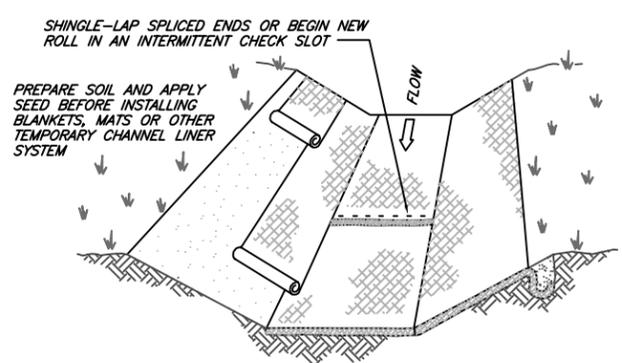
INTERMITTENT CHECK SLOT

LONGITUDINAL ANCHOR TRENCH



ROCK RIPRAP TYPICAL SECTION

NOTE:
 *T = THICKNESS: THICKNESS SHALL BE DETERMINED BY THE ENGINEER.
 MINIMUM THICKNESS SHALL BE 1.5x THE MAXIMUM STONE DIAMETER, NEVER LESS THAN 6" (150mm).

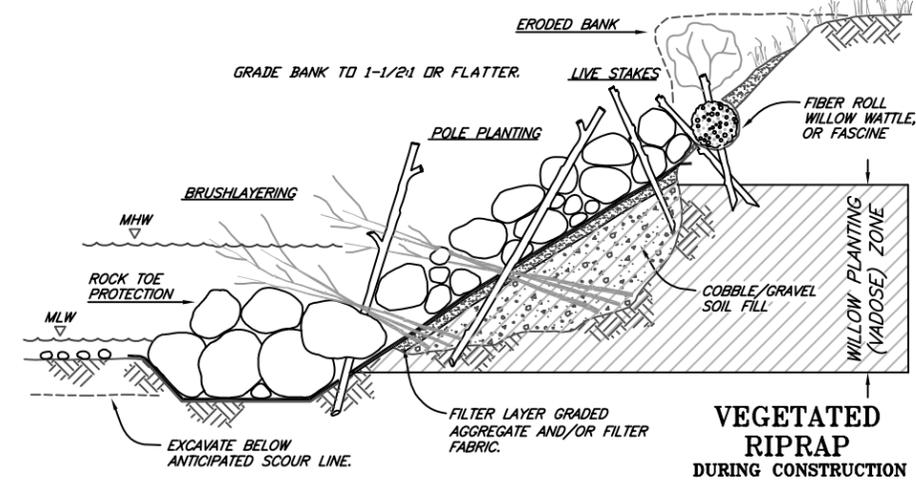


NOT TO SCALE

GRASS-LINED CHANNEL TYPICAL INSTALLATION

NOTES:
 1. DESIGN VELOCITIES EXCEEDING 2 FT/SEC (0.5m/sec) REQUIRE TEMPORARY BLANKETS, MATS OR SIMILAR LINERS TO PROTECT SEED AND SOIL UNTIL VEGETATION BECOMES ESTABLISHED.
 2. GRASS-LINED CHANNELS WITH DESIGN VELOCITIES EXCEEDING 6 FT/SEC (2m/sec) SHOULD INCLUDE TURF REINFORCEMENT MATS.

NOTES:
 1. WILLOW POLE PLANTING AND BRUSHLAYERING SHALL BE INSTALLED DURING BANK GRADING AND RIPRAP PLACEMENT TO ENSURE GOOD CONTACT WITH 'NATIVE GROUND' AND SOIL FILL.
 2. WILLOW POLES AND BRUSH LAYERS SHALL EXTEND DOWN INTO EXPECTED SOIL MOISTURE ZONES (VADOSE).
 3. CUT SMALL HOLES OR SLITS IN FILTER FABRIC AS NECESSARY.
 4. PLACE SOIL FILL (COBBLES, GRAVEL, SOIL) AROUND CUTTINGS.
 5. PLACE RIPRAP CAREFULLY, DO NOT END DUMP. SOME DAMAGE TO BRUSH LAYERS AND WILLOW POLES IS UNAVOIDABLE AND ACCEPTABLE. DEEPLY PLANTED WILLOW MATERIAL WILL REGENERATE.



VEGETATED RIPRAP DURING CONSTRUCTION

REFERENCE ORIGINAL DESIGN SUPPLIED BY:



US ARMY CONSTRUCTION ENGINEERING RESEARCH LABORATORY CHAMPAIGN, IL

REVISIONS		
DATE	APPROVED	TITLE