

CHANNEL EROSION CONTROL MATRIX

(Concentrated Flow Application)

TYPE OF EROSION CONTROL DEVICE	PERMISSIBLE SHEAR LBS./F.	DITCH GRADE															REMARKS
		< 2%			2% - 4%			4% - 6%			6% - 9% *			9% - 12% *			
		Max. Length (ft.)			Max. Length (ft.)			Max. Length (ft.)			Max. Length (ft.)			Max. Length (ft.)			
		300	600	1200	300	600	1200	300	600	1200	300	600	1200	300	600	1200	
Seed with properly anchored mulch	0.6	██████████															Anchor mulch per specifications.
Sod ditch checks with seed and mulch	N/A	████████████████████			C												Install one ditch check for every 1 foot of drop. Sod stakes required.
Temporary ditch checks (hay bales or approved manufactured alternatives listed in the WisDOT PAL)	N/A	██															Install one ditch check for every 2 feet of drop. Maximum 200' spacing. Not recommended for slopes less than 1%.
Sod ditch liner	1.0	██████████															Upstream end must be buried. Additional sod stakes required.
Double netted light duty (WisDOT Class I Type B) erosion mat	1.5	██															Only mat type products allowed.
Sod reinforced with a double netted jute (WisDOT Class II Type A) erosion mat	1.5	██															Upstream end must be buried. Additional sod stakes required. Two bid items needed.
Stone or rock ditch checks, or Rock-Filled Filter Bags	N/A	●●●●●●●●●●██															Use No. 2 coarse aggregate, railroad ballast, or breaker run. Install one ditch check for every 2 feet of drop. Use in conjunction with a channel lining.
Medium duty coconut erosion mat (WisDOT Class II Type B or C)	2.0	●●●●●●●●●●██															
Heavy duty synthetic (WisDOT Class III Type A) erosion mat or turf reinforcement mat (WisDOT Class III Type B)	2.0	●●●●●●●●●●██															Germination may be a problem with Class III Type A mats. An ECRM is required for initial erosion protection for Class III Type B mats.
Heavy duty synthetic turf reinforcement (WisDOT Class III Type C) mat	3.5	●●●●●●●●●●██															An ECRM is required for initial erosion protection. Contact manufacturer if higher shears are needed.
Riprap ditch checks	N/A	●●●●●●●●●●██															Place top of downstream ditch check level with bottom of upstream ditch check. Use in conjunction with a channel lining.
Heavy duty synthetic turf reinforcement (Class III Type D) mat	5	●●●●●●●●●●██															An ECRM is required for initial erosion protection. Contact manufacturer if higher shears are needed.
Light riprap	4	●●●●●●●●●●██															Outfalling, overtopping and scour need to be addressed. Use 2' minimum ditch depth.
Medium riprap	5	●●●●●●●●●●██															
Heavy riprap	8	●●●●●●●●●●██															

Riprap measures apply to all ditch types. Use of these measure requires engineering judgement and design.

