Appendix C

Low Water Stream Crossing Calculations

Low Water Crossing, "Q", and Velocity Calculations

(lwx.xls) Through Manning's and Chezy Equations; Ozzie, 1992

Designer: Ozzie Date: 2/6/2001

Project: Siskiyou Roadside Ditch **Sta:** Bladed ditch

Storm Events, "Q" in cfs: 100 Yr. 1 to 2 ; 50 Yr. ; 25 Yr.
if known

Input		Variables	
"C"	Average width of bottom of channel, Feet	0	
"a"	Slope of Lt. side of channel, % in Dec.	0.5	
"b"	Slope of Rt. side of channel, % in Dec.	1	
"s"	Slope of channel, % in Dec.	0.08	
"n"	Roughness coefficient. ("n" for properly sized riprap = 0.0525)	0.025	bladed ditch
"D"	Mean depth of flow in channel for storm flow *(May be trial depth until known "Q" is reached)*	0.5	

Calculated Output		Calculated	
Cross-sectional area of flow in sq.ft.	**A =**	0.4	s.f.
Wetted perimeter in feet	**Pw =**	1.8	ft.
* Quantity of flow in Cubic Feet per Second, cfs	**Q =**	**2**	cfs
* Mean Velocity of stream	**Vm =**	5.9	ft/sec
(May be trial Depth until known "Q" is reached)			
Length of wetted side, "a"	**La =**	1.1	ft.
Length of wetted side, "b"	**Lb. =**	0.7	ft.