PARABOLIC WATERWAY DESIGN, WITHOUT FREEBOARD

RETARDANCE - D & C
GRADE, % - 0.25 to 2.0

	Grade, 0.25%			Grade, 0.50%			Grade, 0.75%			Grade, 1.0%			Grade, 1.25%			Grade, 1.50%			Grade, 2.0%		
V	0.5	1.0	1.5	0.5	1.0	1.5	0.5	1.0	1.5	0.5	1.0	1.5	0.5	1.0	1.5	0.5	1.0	1.5	0.5	1.0	1.5
D	1.3	1.5	1.8	1.0	1.1	1.3	0.8	1.0	1.1	0.7	0.9	1.0	0.6	0.8	0.9	0.6	0.8	0.8	0.5	0.7	0.8
Q										Top Width											
5	20			26	9		30	12	6	33	13	7	35	15	8	37	16	8	41	18	10
10	40	13		53	19	10	61	23	12	65	27	14	70	30	16	74	32	17	82	36	20
15	60	20	10	79	29	15	91	35	18	98	40	21	105	44	24	111	48	26	123	54	29
20	81	27	14	106	39	20	121	47	24		53	28		59	32		63	34		72	39
25	101	34	17		48	25		58	30		66	35		74	39		79	43		90	49
30		41	21		58	30		70	36		80	42		89	47		95	52		108	59
35		48	25		68	35		82	42		93	49		103	55		111	60			69
40		55	28		77	40		93	49		106	56			63			69			79
45		62	32		87	45		105	55			63			71			77			88
50		69	35		97	50			61			70			79			86			98
55		75	39		106	55			67			77			87			95			108
60		82	43			60			73			84			95			103			
65		89	46			65			79			91			102						
70		96	50			71			85			98									
75		103	53			76			91			105									
80			57			81			97												
90			64			91			109												
100			71			101															
110			78																		
120			85																		
130			93																		
140			100																		

V, permissible velocity of soil with vegetative retardance "D"
Depth and top width are for cross section with retardance "C"

Q, in cfs
V, in fps
D, depth in ft.
Top Width, in ft.

Exhibit 7-5.1

REFERENCE
SCS - TP - 61

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ENGINEERING & WATERSHED PLANNING UNIT
BROOMALL, PENNSYLVANIA

TSC - NE - ENG.
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