

PARABOLIC DIVERSION DESIGN, WITHOUT FREEBOARD							RETARDANCE - D & C GRADE, % - 0.25			
V ₁ Based on Permissible Velocity of the Soil with Retardance "D" Top Width, Depth & V ₂ Based on Retardance "C"										
q cfs	T D	V ₂	T D	V ₂	T D	V ₂	V ₁ = 4.0	V ₁ = 5.0	V ₁ = 6.0	
15										
20	10	2.4	1.6							
25	11	2.3	1.7							
30	13	2.3	1.7							
35	15	2.3	1.8	10	2.7	2.1				
40	17	2.2	1.8	12	2.6	2.2				
45	19	2.2	1.8	13	2.6	2.2				
50	20	2.2	1.8	14	2.6	2.3				
55	22	2.2	1.8	15	2.5	2.3				
60	24	2.2	1.8	17	2.5	2.3				
65	70	2.2	1.9	18	2.5	2.3	13	3.1	2.7	
70	75	2.2	1.9	19	2.5	2.4	13	3.0	2.8	
75	80	2.2	1.9	20	2.5	2.4	14	3.0	2.8	
80	90	33	2.2	1.9	23	2.5	2.4	16	3.0	2.8
90	100	37	2.2	1.9	25	2.5	2.4	18	3.0	2.9
100	110	40	2.2	1.9	28	2.5	2.4	19	2.9	2.9
110	120	44	2.2	1.9	30	2.5	2.4	21	2.9	2.9
120	130	48	2.2	1.9	33	2.5	2.4	23	2.9	2.9
130	140	51	2.2	1.9	35	2.5	2.4	25	2.9	2.9
140	150	55	2.2	1.9	37	2.5	2.4	26	2.9	2.9
150	160	58	2.2	1.9	40	2.5	2.4	28	2.9	2.9
160	170	62	2.2	1.9	42	2.5	2.4	30	2.9	3.0
170	180	66	2.2	1.9	45	2.5	2.4	31	2.9	3.0
180	190	69	2.2	1.9	47	2.5	2.4	33	2.9	3.0
190	200	73	2.2	1.9	50	2.5	2.4	35	2.9	3.0
200	220	80	2.2	1.9	55	2.5	2.4	38	2.9	3.0
220	240	87	2.2	1.9	60	2.5	2.5	42	2.9	3.0
240	260	95	2.2	1.9	65	2.5	2.4	45	2.9	3.0
260	280	69	2.5	2.5	69	2.5	2.5	49	2.9	3.0
280	300	74	2.5	2.5	74	2.5	2.5	52	2.9	3.0

9-20.5

T = Top width, Retardance "C"
 D = Flow depth, Retardance "C"
 V₁ = Permissible velocity, Retardance "D"
 V₂ = Velocity, Retardance "C"

T and D are the dimensions required to carry the design flow. Add freeboard and allowance for settlement as necessary.

Exhibit 9-2.1

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

RTSC - NE - ENG. 915

SHEET 1 OF 6

REFERENCE
 SCS - TP - 61

- 9-20.6 -

PARABOLIC DIVERSION DESIGN, WITHOUT FREEBOARD										RETARDANCE - D & C GRADE, % - 0.50		
V ₁ Based on Permissible Velocity of the Soil With Retardance "D" Top Width, Depth & V ₂ Based on Retardance "C"												
Q	V ₁ = 2.0	V ₁ = 2.5	V ₁ = 3.0	V ₁ = 3.5	V ₁ = 4.0	V ₁ = 4.5	V ₁ = 5.0	V ₁ = 5.5	V ₁ = 6.0	T	D	
cfs	T	D	V ₂	T	D	V ₂	T	D	V ₂	T	D	
15	9	1.6	1.6	11	1.6	1.7	9	1.9	2.1	8	2.2	
20	11	1.6	1.7	17	1.6	1.7	11	1.9	2.2	15	2.5	
25	14	1.6	1.7	20	1.6	1.7	12	1.9	2.3	9	2.1	
30	25	1.6	1.7	31	1.5	1.7	14	1.8	2.3	11	2.1	
35	35	1.6	1.7	33	1.5	1.7	21	1.8	2.4	16	2.6	
40	40	22	1.6	36	1.5	1.8	23	1.8	2.4	17	2.7	
45	45	25	1.5	50	28	1.5	1.7	16	1.8	2.3	12	2.8
50	50	31	1.5	55	31	1.5	1.7	18	1.8	2.4	13	3.2
55	55	44	1.5	60	33	1.5	1.8	26	1.8	2.4	15	3.3
60	60	60	1.5	65	36	1.5	1.8	21	1.8	2.4	16	3.3
65	65	70	1.5	70	39	1.5	1.7	21	1.8	2.4	17	3.3
70	70	75	1.5	75	42	1.5	1.8	26	1.8	2.4	18	3.4
75	75	80	1.5	80	44	1.5	1.8	28	1.8	2.4	19	3.4
80	80	90	1.5	90	50	1.5	1.8	31	1.8	2.4	21	3.4
90	90	100	1.5	100	55	1.5	1.8	35	1.8	2.4	24	3.4
100	100	110	1.5	110	61	1.5	1.8	38	1.8	2.4	29	3.4
110	110	120	1.5	120	66	1.5	1.8	42	1.8	2.4	31	3.4
120	120	130	1.5	130	72	1.5	1.8	45	1.8	2.4	34	3.4
130	130	140	1.5	140	77	1.5	1.8	48	1.8	2.4	36	3.4
140	140	150	1.5	150	83	1.5	1.8	52	1.8	2.4	39	3.4
150	150	160	1.5	160	88	1.5	1.8	55	1.8	2.4	41	3.5
160	160	170	1.5	170	93	1.5	1.8	59	1.8	2.4	52	3.6
170	170	180	1.5	180	99	1.5	1.8	62	1.8	2.4	47	3.6
180	180	190	1.5	190	55	1.8	2.4	49	2.0	2.9	35	3.6
190	190	200	1.5	200	69	1.8	2.4	52	2.0	2.9	37	3.6
200	200	220	1.8	220	76	1.8	2.4	57	2.0	2.9	41	3.6
220	220	240	1.8	240	82	1.8	2.5	62	2.0	2.9	44	3.6
240	240	260	1.8	260	89	1.8	2.5	67	2.0	2.9	48	3.6
260	260	280	1.8	280	96	1.8	2.5	72	2.0	3.0	52	3.6
280	280	300	1.8	300	77	2.0	3.0	55	2.3	3.6	43	3.6
300	300				77	2.0	3.0	55	2.3	3.6	43	3.6
										35	3.6	
										27	3.2	
										23	3.2	
										19	4.1	
										5.8		

Exhibit 9-2.1

REFERENCE SCS - TP - 61	U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE ENGINEERING & WATERSHED PLANNING UNIT UPPER DAIRY, PENNSYLVANIA	RTSC - NE - ENG. 915 SHEET 2 OF 6
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PARABOLIC DIVERSION DESIGN, WITHOUT FREEBOARD										RETARDANCE - D & C GRADE, % - 0.75	
V1 Based on Permissible Velocity of the Soil With Retardance "D" Top Width, Depth & V2 Based on Retardance "C"											
Q	V1 = 2.0	V1 = 2.5	V1 = 3.0	V1 = 3.5	V1 = 4.0	V1 = 4.5	V1 = 5.0	V1 = 5.5	V1 = 6.0	T	D
cfs	T	D	V2	T	D	V2	T	D	V2	T	D
15	12	1.3	1.5	7	1.6	2.0					
20	16	1.3	1.5	9	1.5	2.2					
25	19	1.3	1.5	11	1.5	2.2	8	1.7	2.6		
30	23	1.3	1.5	13	1.5	2.2	10	1.7	2.7	8	1.9
35	27	1.3	1.5	15	1.5	2.3	11	1.7	2.7	9	1.9
40	31	1.3	1.5	18	1.5	2.3	13	1.7	2.8	10	1.9
45	35	1.3	1.6	20	1.5	2.3	14	1.7	2.8	11	1.8
50	38	1.3	1.6	22	1.5	2.3	16	1.6	2.9	13	1.8
55	42	1.3	1.6	24	1.5	2.3	18	1.6	2.9	11	1.8
60	46	1.3	1.6	26	1.5	2.3	19	1.6	2.8	15	1.8
65	50	1.3	1.6	28	1.5	2.3	21	1.6	2.9	16	1.8
70	53	1.3	1.6	30	1.5	2.3	22	1.6	2.9	17	1.8
75	57	1.3	1.6	33	1.5	2.3	24	1.6	2.9	19	1.8
80	61	1.3	1.6	35	1.5	2.3	25	1.6	2.9	20	1.8
90	68	1.3	1.6	39	1.5	2.3	28	1.6	2.9	22	1.8
100	76	1.3	1.6	43	1.5	2.3	32	1.6	2.9	25	1.8
110	83	1.3	1.6	48	1.5	2.3	35	1.6	2.9	27	1.8
120	91	1.3	1.6	52	1.5	2.3	38	1.6	2.9	30	1.8
130	98	1.3	1.6	56	1.5	2.4	41	1.6	2.9	32	1.8
140			60	1.5	2.4	44	1.6	2.9	44	1.9	3.4
150			65	1.5	2.4	47	1.6	2.9	37	1.8	3.4
160			69	1.5	2.4	50	1.6	2.9	39	1.8	3.4
170			73	1.5	2.4	53	1.6	2.9	42	1.8	3.4
180			77	1.5	2.4	56	1.6	2.9	44	1.9	3.4
190			82	1.5	2.4	60	1.6	2.9	47	1.8	3.4
200			86	1.5	2.4	63	1.6	3.0	49	1.8	3.4
220			94	1.5	2.4	69	1.6	3.0	54	1.8	3.4
240						75	1.6	3.0	59	1.8	3.4
260						81	1.6	3.0	64	1.8	3.4
280						87	1.6	3.0	68	1.8	3.4
300						93	1.6	3.0	73	1.8	3.5

Exhibit 9-2.1

REFERENCE SCS - TP - 61	U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE ENGINEERING & WATERSHED PLANNING UNIT UPPER DARBY, PENNSYLVANIA	RTSC - NE - ENG. 915 SHEET 3 OF 6
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-9-20-8-

PARABOLIC DIVERSION DESIGN, WITHOUT FREEBOARD												RETARDANCE - D & C GRADE, % - 1.0										
V1 based on Permissible Velocity of the Soil With Retardance "D" Top Width, Depth & V2 Based on Retardance "C"																						
Q	V1 = 2.0	V1 = 2.5	V1 = 3.0	V1 = 3.5	V1 = 4.0	V1 = 4.5	V1 = 5.0	V1 = 5.5	V1 = 6.0	T	D	V2	T	D	V2	T	D	V2	T	D	V2	
0																						
15	13 1.1 1.5	8 1.3 2.0																				
20	18 1.1 1.5	11 1.3 2.1	9 1.5 2.5	8 1.5 2.6	8 1.6 2.6	8 1.6 2.6	8 1.6 2.6	8 1.6 2.6	8 1.6 2.6	11 1.8 3.7	9 2.0 4.2											
25	22 1.1 1.5	17 1.3 2.1	11 1.5 2.7	9 1.6 3.0	9 1.6 3.0	9 1.6 3.0	9 1.6 3.0	9 1.6 3.0	9 1.6 3.0	12 1.8 3.8	10 2.0 4.3											
30	27 1.1 1.5	19 1.3 2.2	13 1.5 2.8	12 1.6 3.1	12 1.6 3.1	12 1.6 3.1	12 1.6 3.1	12 1.6 3.1	12 1.6 3.1	14 1.7 3.8	10 2.0 4.3											
35	31 1.1 1.5	22 1.3 2.2	15 1.4 2.8	12 1.6 3.1	12 1.6 3.1	12 1.6 3.1	12 1.6 3.1	12 1.6 3.1	12 1.6 3.1	14 1.7 3.8	11 2.0 4.3											
40	35 1.1 1.5	25 1.3 2.2	17 1.5 2.8	13 1.6 3.2	13 1.6 3.2	13 1.6 3.2	13 1.6 3.2	13 1.6 3.2	13 1.6 3.2	16 1.7 3.8	11 2.0 4.3											
45	40 1.1 1.5	28 1.3 2.2	19 1.4 2.8	15 1.6 3.2	15 1.6 3.2	15 1.6 3.2	15 1.6 3.2	15 1.6 3.2	15 1.6 3.2	17 1.7 3.8	11 2.0 4.3											
50	44 1.1 1.5	30 1.3 2.2	20 1.4 2.8	16 1.5 3.3	16 1.5 3.3	16 1.5 3.3	16 1.5 3.3	16 1.5 3.3	16 1.5 3.3	18 1.7 3.8	10 2.0 4.3											
55	45 1.1 1.5	33 1.3 2.2	22 1.4 2.8	18 1.5 3.3	18 1.5 3.3	18 1.5 3.3	18 1.5 3.3	18 1.5 3.3	18 1.5 3.3	20 1.7 3.8	11 2.0 4.3											
60	53 1.1 1.5	36 1.3 2.2	24 1.4 2.8	19 1.5 3.3	19 1.5 3.3	19 1.5 3.3	19 1.5 3.3	19 1.5 3.3	19 1.5 3.3	21 1.7 3.8	11 2.0 4.3											
65	57 1.1 1.5	36 1.3 2.2	24 1.4 2.8	19 1.5 3.3	19 1.5 3.3	19 1.5 3.3	19 1.5 3.3	19 1.5 3.3	19 1.5 3.3	21 1.7 3.8	11 2.0 4.3											
70	61 1.1 1.5	38 1.3 2.2	26 1.4 2.8	21 1.5 3.3	21 1.5 3.3	21 1.5 3.3	21 1.5 3.3	21 1.5 3.3	21 1.5 3.3	23 1.7 3.9	12 2.0 4.3											
75	73 1.1 1.5	41 1.3 2.2	28 1.4 2.9	22 1.5 3.3	22 1.5 3.3	22 1.5 3.3	22 1.5 3.3	22 1.5 3.3	22 1.5 3.3	24 1.7 3.9	11 2.2 4.7											
80	79 1.1 1.5	44 1.3 2.2	29 1.4 2.9	24 1.5 3.3	24 1.5 3.3	24 1.5 3.3	24 1.5 3.3	24 1.5 3.3	24 1.5 3.3	26 1.7 3.9	11 2.2 4.7											
90	90 1.1 1.5	49 1.3 2.2	33 1.4 2.9	27 1.5 3.3	27 1.5 3.3	27 1.5 3.3	27 1.5 3.3	27 1.5 3.3	27 1.5 3.3	29 1.7 3.9	15 1.9 4.5											
100	97 1.1 1.5	55 1.3 2.2	37 1.4 2.9	32 1.5 3.3	32 1.5 3.3	32 1.5 3.3	32 1.5 3.3	32 1.5 3.3	32 1.5 3.3	34 1.7 3.9	19 1.9 4.5											
110	100 1.1 1.5	60 1.3 2.2	40 1.4 2.9	34 1.5 3.3	34 1.5 3.3	34 1.5 3.3	34 1.5 3.3	34 1.5 3.3	34 1.5 3.3	36 1.7 3.9	20 1.9 4.5											
120	65 1.1 1.5	65 1.3 2.2	44 1.4 2.9	35 1.5 3.3	35 1.5 3.3	35 1.5 3.3	35 1.5 3.3	35 1.5 3.3	35 1.5 3.3	37 1.7 3.9	17 2.1 4.5											
130	71 1.1 1.5	71 1.3 2.2	47 1.4 2.9	38 1.5 3.3	38 1.5 3.3	38 1.5 3.3	38 1.5 3.3	38 1.5 3.3	38 1.5 3.3	40 1.7 3.9	22 1.9 4.5											
140	76 1.1 1.5	75 1.3 2.2	51 1.4 2.9	41 1.5 3.3	41 1.5 3.3	41 1.5 3.3	41 1.5 3.3	41 1.5 3.3	41 1.5 3.3	51 1.7 3.9	24 1.9 4.6											
150	91 1.1 1.5	55 1.3 2.2	55 1.4 2.9	44 1.5 3.3	44 1.5 3.3	44 1.5 3.3	44 1.5 3.3	44 1.5 3.3	44 1.5 3.3	53 1.7 3.9	25 1.9 4.6											
160	87 1.1 1.5	58 1.3 2.2	58 1.4 2.9	47 1.5 3.3	47 1.5 3.3	47 1.5 3.3	47 1.5 3.3	47 1.5 3.3	47 1.5 3.3	55 1.7 3.9	27 1.9 4.6											
170	92 1.1 1.5	62 1.3 2.2	62 1.4 2.9	50 1.5 3.3	50 1.5 3.3	50 1.5 3.3	50 1.5 3.3	50 1.5 3.3	50 1.5 3.3	58 1.7 3.9	29 1.9 4.6											
180	97 1.1 1.5	65 1.3 2.2	65 1.4 2.9	53 1.5 3.3	53 1.5 3.3	53 1.5 3.3	53 1.5 3.3	53 1.5 3.3	53 1.5 3.3	60 1.7 3.9	30 1.9 4.6											
190	99 1.1 1.5	69 1.3 2.2	69 1.4 2.9	55 1.5 3.3	55 1.5 3.3	55 1.5 3.3	55 1.5 3.3	55 1.5 3.3	55 1.5 3.3	62 1.7 3.9	32 1.9 4.6											
200	72 1.1 1.5	72 1.3 2.2	72 1.4 2.9	59 1.5 3.4	59 1.5 3.4	59 1.5 3.4	59 1.5 3.4	59 1.5 3.4	59 1.5 3.4	64 1.7 3.9	34 1.9 4.6											
220	80 1.1 1.5	80 1.3 2.2	80 1.4 2.9	64 1.5 3.4	64 1.5 3.4	64 1.5 3.4	64 1.5 3.4	64 1.5 3.4	64 1.5 3.4	68 1.7 3.9	37 1.9 4.6											
240	87 1.1 1.5	87 1.3 2.2	87 1.4 2.9	70 1.5 3.4	70 1.5 3.4	70 1.5 3.4	70 1.5 3.4	70 1.5 3.4	70 1.5 3.4	73 1.7 3.9	40 1.9 4.7											
260	94 1.1 1.5	94 1.3 2.2	76 1.4 2.9	61 1.5 3.4	61 1.5 3.4	61 1.5 3.4	61 1.5 3.4	61 1.5 3.4	61 1.5 3.4	77 1.7 3.9	47 1.9 4.7											
280	97 1.1 1.5	97 1.3 2.2	76 1.4 2.9	66 1.5 3.4	66 1.5 3.4	66 1.5 3.4	66 1.5 3.4	66 1.5 3.4	66 1.5 3.4	81 1.7 3.9	47 1.9 4.7											
300	97 1.1 1.5	97 1.3 2.2	76 1.4 2.9	66 1.5 3.4	66 1.5 3.4	66 1.5 3.4	66 1.5 3.4	66 1.5 3.4	66 1.5 3.4	81 1.7 3.9	47 1.9 4.7											

Exhibit 9-2.1

REFERENCE
 SCS - TP - 61

RTSC - NE - ENG. 915
 U. S. DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE
 ENGINEERING & WATERSHED PLANNING UNIT
 UPPER DARBY, PENNSYLVANIA
 SHEET 4 OF 6

-9-20-9-

PARABOLIC DIVERSION DESIGN, WITHOUT FREEBOARD										RETARDANCE - D & C GRADE, % - 1.5		
V ₁ Based on Permissible Velocity of the Soil With Retardance "D" Top Width, Depth & V ₂ Based on Retardance "G"												
Q	V ₁ = 2.0	V ₁ = 2.5	V ₁ = 3.0	V ₁ = 3.5	V ₁ = 4.0	V ₁ = 4.5	V ₁ = 5.0	V ₁ = 5.5	V ₁ = 6.0	T	D	V ₂
cfs	T	D	V ₂	T	D	V ₂	T	D	V ₂	T	D	V ₂
15	17	0.9	1.4	11	1.1	1.9	8	1.2	2.4	7	1.4	3.0
20	23	0.9	1.4	15	1.0	1.9	10	1.2	2.5	7	1.5	3.4
25	28	0.9	1.4	19	1.0	1.9	12	1.2	2.6	8	1.4	3.2
30	34	0.9	1.4	22	1.0	1.9	15	1.2	2.6	10	1.3	3.2
35	40	0.9	1.4	26	1.0	2.0	17	1.1	2.6	12	1.3	3.3
40	45	0.9	1.4	30	1.0	1.9	20	1.2	2.6	14	1.3	3.3
45	51	0.9	1.4	33	1.0	2.0	22	1.1	2.5	15	1.3	3.4
50	56	0.9	1.4	37	1.0	2.0	25	1.1	2.7	17	1.3	3.6
55	62	0.9	1.5	41	1.0	2.0	27	1.1	2.6	19	1.3	3.4
60	67	0.9	1.5	44	1.0	2.0	30	1.1	2.7	20	1.3	3.4
65	73	0.9	1.5	48	1.0	2.0	32	1.1	2.7	22	1.3	3.4
70	78	0.9	1.5	51	1.0	2.0	34	1.1	2.7	24	1.3	3.4
75	83	0.9	1.5	55	1.0	2.0	37	1.1	2.7	25	1.3	3.4
80	89	0.9	1.5	59	1.0	2.0	39	1.1	2.7	27	1.3	3.4
90	100	0.9	1.5	66	1.0	2.0	44	1.1	2.7	30	1.3	3.5
100	109	1.0	2.0	69	1.1	2.7	33	1.3	3.5	27	1.4	3.5
110	120	1.0	2.0	70	1.1	2.7	37	1.3	3.5	30	1.4	3.5
120	129	1.0	2.0	87	1.0	2.0	40	1.3	3.5	33	1.4	3.5
130	140	1.0	2.0	95	1.0	2.0	63	1.1	2.7	43	1.3	3.5
140	150	1.0	2.0	68	1.1	2.7	47	1.3	3.5	38	1.4	4.0
150	160	1.0	2.0	73	1.1	2.7	50	1.3	3.5	41	1.4	4.0
160	170	1.0	2.0	78	1.1	2.7	53	1.3	3.5	43	1.4	4.0
170	180	1.0	2.0	82	1.1	2.7	56	1.3	3.5	46	1.4	4.0
180	190	1.0	2.0	87	1.1	2.7	60	1.3	3.5	49	1.4	4.0
190	200	1.0	2.0	92	1.1	2.7	63	1.3	3.5	51	1.4	4.0
200	210	1.0	2.0	97	1.1	2.7	66	1.3	3.5	54	1.4	4.0
220	230	1.0	2.0	73	1.3	3.5	59	1.4	4.0	49	1.5	4.5
240	250	1.0	2.0	79	1.3	3.5	65	1.4	4.0	53	1.5	4.5
260	270	1.0	2.0	86	1.3	3.5	70	1.4	4.0	57	1.5	4.5
280	290	1.0	2.0	92	1.3	3.5	75	1.4	4.0	62	1.5	4.5
300	310	1.0	2.0	99	1.3	3.5	81	1.4	4.0	66	1.5	4.5

Exhibit 9-2.1

REFERENCE
SCS - TP - 61

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ENGINEERING & WATERSHED PLANNING UNIT
UPPER DAIRY, PENNSYLVANIA
SHEET 5 OF 6

RTSC - NE - ENG. 915

9-20-10

PARABOLIC DIVERSION DESIGN, WITHOUT FREEBOARD										RETARDANCE - D & C GRADE, % - 2.0																	
V ₁ Based on Permissible Velocity of the Soil With Retardance "D" Top Width, Depth & V ₂ Based on Retardance "C"																											
Q	V ₁ = 2.0	V ₁ = 2.5	V ₁ = 3.0	V ₁ = 3.5	V ₁ = 4.0	V ₁ = 4.5	V ₁ = 5.0	V ₁ = 5.5	V ₁ = 6.0	T	D	V ₂	T	D	V ₂	T	D	V ₂	T	D	V ₂	T	D	V ₂			
15	21	0.8	1.3	1.3	0.9	1.2	0.9	1.0	2.4	7	1.2	2.9	5	1.4	3.8	9	1.3	3.5	5	1.4	3.8	9	1.6	5.2	8	1.6	5.2
20	28	0.8	1.3	1.7	0.9	1.2	1.0	2.4	9	1.1	3.0	7	1.3	3.5	7	1.4	4.0	7	1.5	4.5	8	1.5	4.7	10	1.6	5.3	
25	35	0.8	1.3	21	0.9	1.9	15	1.0	2.4	11	1.1	3.0	8	1.3	3.7	9	1.2	3.7	8	1.3	4.2	9	1.5	4.7	11	1.6	5.0
30	41	0.8	1.3	26	0.9	1.9	18	1.0	2.5	13	1.1	3.0	10	1.2	3.7	8	1.3	4.2	7	1.5	4.5	9	1.6	5.2	10	1.6	5.3
35	48	0.8	1.4	30	0.9	1.9	22	1.1	2.4	15	1.1	3.1	11	1.2	3.8	9	1.3	4.2	8	1.5	4.7	9	1.7	5.2	10	1.6	5.3
40	55	0.8	1.3	34	0.9	1.9	25	1.0	2.5	18	1.1	3.1	13	1.2	3.8	11	1.3	4.3	9	1.5	4.7	7	1.7	5.0	11	1.6	5.3
45	62	0.8	1.4	38	0.9	1.9	28	1.0	2.5	20	1.1	3.1	14	1.2	3.8	12	1.3	4.3	10	1.4	4.8	8	1.6	5.2	10	1.7	5.3
50	68	0.8	1.4	42	0.9	1.9	31	1.0	2.5	22	1.1	3.1	15	1.2	3.9	13	1.3	4.3	11	1.4	4.8	9	1.7	5.6	10	1.6	5.3
55	75	0.8	1.4	46	0.9	1.9	34	1.0	2.5	24	1.1	3.1	17	1.2	3.8	14	1.3	4.3	12	1.4	4.9	10	1.6	5.3	8	1.7	5.8
60	82	0.8	1.4	51	0.9	1.9	37	1.0	2.5	25	1.1	3.1	19	1.2	3.9	16	1.3	4.4	13	1.4	4.8	11	1.6	5.3	9	1.7	5.7
65	88	0.8	1.4	55	0.9	1.9	40	1.0	2.5	28	1.1	3.1	21	1.2	3.9	17	1.3	4.4	14	1.4	4.9	11	1.5	5.4	10	1.7	5.7
70	95	0.8	1.4	59	0.9	1.9	43	1.0	2.5	30	1.1	3.1	22	1.2	3.9	18	1.3	4.4	15	1.4	4.9	12	1.6	5.4	10	1.7	5.8
75	63	0.9	1.2	46	1.0	2.5	32	1.1	3.2	24	1.2	3.9	20	1.3	4.4	16	1.4	5.0	13	1.6	5.5	11	1.7	5.9	11	1.6	5.5
80	67	0.9	2.0	48	1.0	2.5	35	1.1	3.1	25	1.2	3.9	21	1.3	4.4	17	1.4	4.9	14	1.6	5.4	12	1.7	6.0	12	1.6	5.5
90	75	0.9	2.0	54	1.0	2.5	39	1.1	3.2	28	1.2	3.9	23	1.3	4.4	19	1.4	4.9	16	1.6	5.5	13	1.7	5.9	13	1.7	5.9
100	83	0.9	2.0	60	1.0	2.5	43	1.1	3.2	31	1.2	3.2	26	1.3	4.4	21	1.4	5.0	17	1.6	5.5	15	1.7	6.0	15	1.7	6.0
110	92	0.9	2.0	66	1.0	2.5	47	1.1	3.2	34	1.2	3.2	28	1.3	4.4	23	1.4	5.0	19	1.5	5.6	16	1.7	6.0	16	1.7	6.0
120	100	0.9	2.0	72	1.0	2.5	52	1.1	3.2	38	1.2	3.9	31	1.3	4.4	26	1.4	5.0	21	1.5	5.6	18	1.7	6.1	17	1.6	5.6
130	94	1.0	2.5	56	1.1	3.2	41	1.2	3.2	34	1.3	4.5	23	1.4	5.0	23	1.5	5.6	19	1.7	6.0	19	1.6	5.6	21	1.7	6.1
140	90	1.0	2.5	60	1.1	3.2	44	1.2	4.0	36	1.3	4.5	26	1.4	5.0	24	1.5	5.6	22	1.7	6.1	21	1.6	5.6	23	1.7	6.1
150	96	1.0	2.5	69	1.1	3.2	50	1.2	4.0	41	1.3	4.5	30	1.4	5.0	30	1.5	5.6	24	1.7	6.1	24	1.6	5.6	25	1.7	6.1
160	78	1.1	3.2	53	1.2	4.0	44	1.3	4.0	46	1.4	4.5	34	1.5	5.1	31	1.6	5.6	26	1.7	6.1	26	1.6	5.6	27	1.7	6.1
170	73	1.1	3.2	53	1.2	4.0	44	1.3	4.0	44	1.4	4.5	36	1.5	5.1	32	1.6	5.6	28	1.7	6.1	28	1.6	5.6	29	1.7	6.1
180	77	1.1	3.2	56	1.2	4.0	46	1.3	4.5	38	1.4	5.0	33	1.5	5.7	31	1.6	5.7	23	1.7	6.1	23	1.6	5.7	24	1.7	6.1
190	81	1.1	3.2	59	1.2	4.0	49	1.3	4.5	40	1.4	5.0	33	1.5	5.7	28	1.6	5.7	28	1.7	6.1	28	1.6	5.7	29	1.7	6.1
200	85	1.1	3.2	62	1.2	4.0	51	1.3	4.5	42	1.4	5.0	34	1.5	5.7	30	1.6	5.7	29	1.7	6.2	29	1.6	5.7	30	1.7	6.2
220	94	1.1	3.2	68	1.2	4.0	56	1.3	4.5	56	1.4	5.0	36	1.5	5.7	32	1.6	5.7	32	1.7	6.2	32	1.6	5.7	33	1.7	6.2
240	74	1.2	4.0	61	1.3	4.5	51	1.4	5.5	51	1.5	5.5	35	1.6	5.7	31	1.7	5.7	35	1.7	6.2	35	1.6	5.7	36	1.7	6.2
260	80	1.2	4.0	68	1.3	4.5	55	1.4	5.5	55	1.5	5.5	35	1.6	5.7	31	1.7	5.7	35	1.7	6.2	35	1.6	5.7	36	1.7	6.2
280	86	1.2	4.0	71	1.3	4.5	59	1.4	5.5	59	1.5	5.5	35	1.6	5.7	31	1.7	5.7	35	1.7	6.2	35	1.6	5.7	36	1.7	6.2
300	92	1.2	4.0	76	1.3	4.5	63	1.4	5.5	63	1.5	5.5	35	1.6	5.7	31	1.7	5.7	35	1.7	6.2	35	1.6	5.7	36	1.7	6.2

Exhibit 9-2.1

REFERENCE
SCS - TP - 61

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ENGINEERING & WATERSHED PLANNING UNIT
UPPER DARBY, PENNSYLVANIA
SHEET 6 OF 6

RTSC - NE - ENG. 915