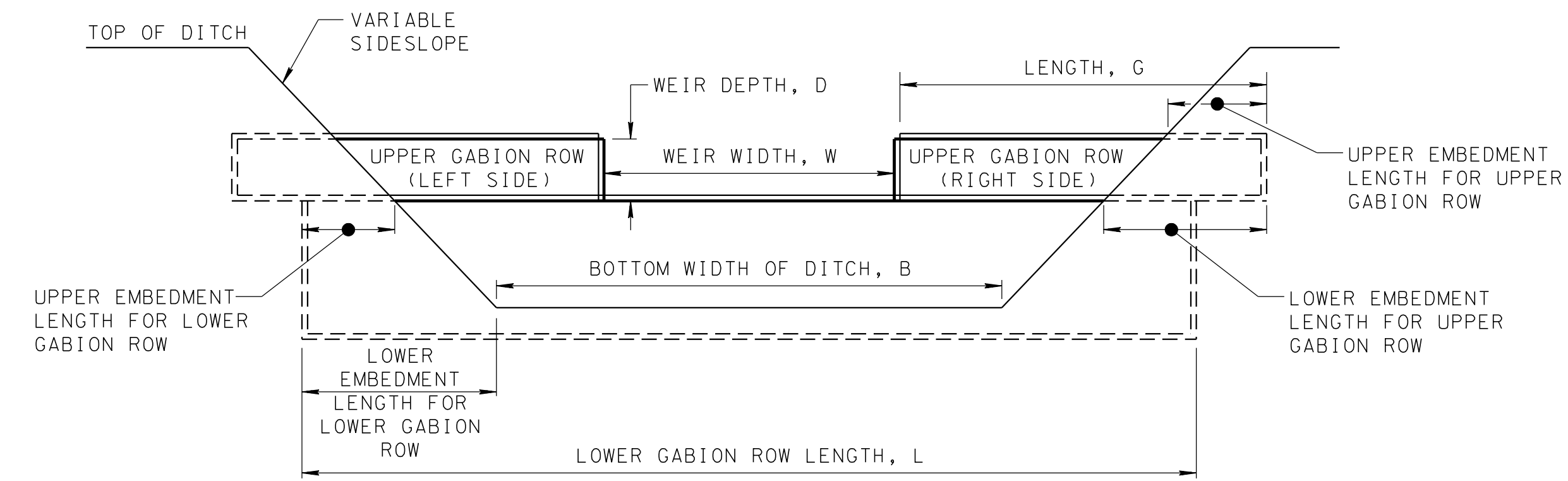


REV. 4-15-06: REFORMATTED SHEET, REVISED TABLES, MISC. EDITS TO DRAWING.  
 REV. 4-1-08: MINOR REVISIONS TO TABLES, ADDED GABION TO BOTTOM TABLE.

DESIGN DIMENSIONS, UPPER GABION ROW																			
UPPER GABION ROW, 12-INCH GABION HEIGHT										UPPER GABION ROW, 18-INCH GABION HEIGHT									
BOTTOM WIDTH OF DITCH, B IN FEET	MINIMUM LENGTH OF GABIONS, G (ONE PER SIDE) (UPPER ROW), IN FEET			LOWER EMBEDMENT LENGTH FOR UPPER GABIONS, IN FEET			UPPER EMBEDMENT LENGTH FOR UPPER GABIONS, IN FEET			MINIMUM LENGTH OF GABIONS, G (ONE PER SIDE) (UPPER ROW), IN FEET			LOWER EMBEDMENT LENGTH FOR UPPER GABIONS, IN FEET			UPPER EMBEDMENT LENGTH FOR UPPER GABIONS, IN FEET			BOTTOM WIDTH OF DITCH, B IN FEET
	SIDESLOPE			SIDESLOPE			SIDESLOPE			SIDESLOPE			SIDESLOPE			SIDESLOPE			
	2:1	3:1	4:1	2:1	3:1	4:1	2:1	3:1	4:1	2:1	3:1	4:1	2:1	3:1	4:1	2:1	3:1	4:1	
3	3	6	6	2.1	4.5	4.5	0.1	1.5	0.5	6	9	9	3.3	5.4	6.3	0.3	0.9	0.3	3
4	3	6	6	2.1	4.5	4.5	0.1	1.5	0.5	6	9	9	3.3	5.4	6.3	0.3	0.9	0.3	4
5	3	6	6	2.1	4.5	4.5	0.1	1.5	0.5	6	9	9	3.3	5.4	6.3	0.3	0.9	0.3	5
6	3	6	6	2.1	4.5	4.5	0.1	1.5	0.5	6	9	9	3.3	5.4	6.3	0.3	0.9	0.3	6
7	3	6	6	2.1	4.5	4.5	0.1	1.5	0.5	6	9	9	3.3	5.4	6.3	0.3	0.9	0.3	7
8	3	6	6	2.1	4.5	4.5	0.1	1.5	0.5	6	9	9	3.3	5.4	6.3	0.3	0.9	0.3	8
9	3	6	6	2.1	4.5	4.5	0.1	1.5	0.5	6	9	9	3.3	5.4	6.3	0.3	0.9	0.3	9
10	3	6	6	2.1	4.5	4.5	0.1	1.5	0.5	6	9	9	3.3	5.4	6.3	0.3	0.9	0.3	10
12	3	6	6	2.1	4.5	4.5	0.1	1.5	0.5	6	9	9	3.3	5.4	6.3	0.3	0.9	0.3	12
15	3	6	6	2.1	4.5	4.5	0.1	1.5	0.5	6	9	9	3.3	5.4	6.3	0.3	0.9	0.3	15



DEFINITION OF TERMS FOR GABION CHECK DAM IN TRAPEZOIDAL DITCH

DESIGN DIMENSIONS, LOWER GABION ROW																														
LOWER GABION ROW, 12-INCH GABION HEIGHT							LOWER GABION ROW, 18-INCH GABION HEIGHT							LOWER GABION ROW, 36-INCH GABION HEIGHT																
BOTTOM WIDTH OF DITCH, B IN FEET	MINIMUM LENGTH OF GABIONS, L (LOWER ROW), IN FEET			LOWER EMBEDMENT LENGTH, IN FEET			*UPPER EMBEDMENT LENGTH, IN FEET			MINIMUM LENGTH OF GABIONS, L (LOWER ROW), IN FEET			LOWER EMBEDMENT LENGTH, IN FEET			*UPPER EMBEDMENT LENGTH, IN FEET			MINIMUM LENGTH OF GABIONS, L (LOWER ROW), IN FEET			LOWER EMBEDMENT LENGTH, IN FEET			*UPPER EMBEDMENT LENGTH, IN FEET					BOTTOM WIDTH OF DITCH, B IN FEET
	SIDESLOPE			SIDESLOPE			SIDESLOPE			SIDESLOPE			SIDESLOPE			SIDESLOPE			SIDESLOPE			SIDESLOPE			SIDESLOPE					
	2:1	3:1	4:1	2:1	3:1	4:1	2:1	3:1	4:1	2:1	3:1	4:1	2:1	3:1	4:1	2:1	3:1	4:1	2:1	3:1	4:1	2:1	3:1	4:1	2:1	3:1	4:1			
3	9	9	12	3	3	4.5	1.5	0.75	1.5	9	12	15	3	4.5	6	0.5	0.75	1	15	21	27	6	9	12	0.5	0.75	1	3		
4	9	9	12	2.5	2.5	4	1	0.25	1	12	15	15	4	5.5	5.5	1.5	1.75	0.5	18	21	27	7	8.5	11.5	1.5	0.25	0.5	4		
5	9	12	12	2	3.5	3.5	0.5	1.25	0.5	12	15	18	3.5	5	6.5	1	1.25	1.5	18	24	30	6.5	9.5	12.5	1	1.25	1.5	5		
6	12	12	15	3	3	4.5	1.5	0.75	1.5	12	15	18	3	4.5	6	0.5	0.75	1	18	24	30	6	9	12	0.5	0.75	1	6		
7	12	15	15	2.5	4	4	1	1.75	1	15	15	18	4	4	5.5	1.5	0.25	0.5	21	24	30	7	8.5	11.5	1.5	0.25	0.5	7		
8	12	15	15	2	3.5	3.5	0.5	1.25	0.5	15	18	21	3.5	5	6.5	1	1.25	1.5	21	27	33	6.5	9.5	12.5	1	1.25	1.5	8		
9	15	15	18	3	3	4.5	1.5	0.75	1.5	15	18	21	3	4.5	6	0.5	0.75	1	21	27	33	6	9	12	0.5	0.75	1	9		
10	15	15	18	2.5	2.5	4	1	0.25	1	18	18	21	4	4	5.5	1.5	0.25	0.5	24	27	33	7	8.5	11.5	1.5	0.25	0.5	10		
12	18	18	21	3	3	4.5	1.5	0.75	1.5	18	21	24	3	4.5	6	0.5	0.75	1	24	30	36	6	9	12	0.5	0.75	1	12		
15	21	21	24	3	3	4.5	1.5	0.75	1.5	21	24	27	3	4.5	6	0.5	0.75	1	27	33	39	6	9	12	0.5	0.75	1	15		

\* ASSUMING 3 INCH EMBEDMENT DEPTH AT BASE OF GABION

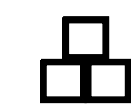
GABION CHECK DAM WEIR LENGTHS AND ALLOWABLE FLOW RATES																															
UPPER GABION ROW, 12-INCH GABION HEIGHT												UPPER GABION ROW, 18-INCH GABION HEIGHT																			
BOTTOM WIDTH OF DITCH, B IN FEET	12-INCH LOWER GABION ROW				18-INCH LOWER GABION ROW				36-INCH LOWER GABION ROW				12-INCH LOWER GABION ROW				18-INCH LOWER GABION ROW									BOTTOM WIDTH OF DITCH, B IN FEET					
	RECTANGULAR WEIR WIDTH, W IN FEET		ALLOWABLE FLOW (cfs) FOR 12-INCH UPPER GABION HEIGHT		RECTANGULAR WEIR WIDTH, W IN FEET		ALLOWABLE FLOW (cfs) FOR 12-INCH UPPER GABION HEIGHT		RECTANGULAR WEIR WIDTH, W IN FEET		ALLOWABLE FLOW (cfs) FOR 12-INCH UPPER GABION HEIGHT		RECTANGULAR WEIR WIDTH, W IN FEET		ALLOWABLE FLOW (cfs) FOR 18-INCH UPPER GABION HEIGHT			RECTANGULAR WEIR WIDTH, W IN FEET			ALLOWABLE FLOW (cfs) FOR 18-INCH UPPER GABION HEIGHT										
	SIDESLOPE		SIDESLOPE		SIDESLOPE		SIDESLOPE		SIDESLOPE		SIDESLOPE		SIDESLOPE		SIDESLOPE			SIDESLOPE			SIDESLOPE										
2:1	3:1	4:1	2:1	3:1	4:1	2:1	3:1	4:1	2:1	3:1	4:1	2:1	3:1	4:1	2:1	3:1	4:1	2:1	3:1	4:1	2:1	3:1	4:1	2:1	3:1	4:1					
3	4.2	4.5	6	4.7	6.3	6.9	6.2	7.5	10	7.6	9.9	11.4	12.2	16.5	22	20.4	27.8	34.3	2.6	3.3	7.6	13.4	18.8	13.4	8.6	12.3	19.6	23.1	31.0	35.6	3
4	5.2	5.5	7	5.6	7.1	7.7	7.2	8.5	11	9.0	11.3	12.8	13.2	17.5	23	23.2	30.6	37.1	3.6	4.3	8.6	13.2	17.7	14.7	9.6	13.3	20.6	25.9	33.8	38.5	4
5	6.2	6.5	8	6.5	7.9	8.6	8.2	9.5	12	10.4	12.7	14.3	14.2	18.5	24	26.1	33.6	40.0	4.6	5.3	9.6	13.9	17.9	16.0	10.6	14.3	21.6	28.8	36.7	41.4	5
6	7.2	7.5	9	7.5	8.8	9.5	9.2	10.5	13	11.9	14.2	15.7	15.2	19.5	25	29.0	36.5	42.9	5.6	6.3	10.6	15.0	18.7	17.4	11.6	15.3	22.6	31.7	39.6	44.4	6
7	8.2	8.5	10	8.4	9.8	10.4	10.2	11.5	14	13.4	15.7	17.2	16.2	20.5	26	31.9	39.5	45.9	6.6	7.3	11.6	16.1	19.7	18.7	12.6	16.3	23.6	34.7	42.6	47.2	7
8	9.2	9.5	11	9.4	10.7	11.4	11.2	12.5	15	14.9	17.1	18.6	17.2	21.5	27	34.9	42.5	48.8	7.6	8.3	12.6	17.5	20.9	20.1	13.6	17.3	24.6	37.7	45.7	50.0	8
9	10.2	10.5	12	10.4	11.7	12.3	12.2	13.5	16	16.4	18.6	20.1	18.2	22.5	28	37.9	45.3	51.8	8.6	9.3	13.6	18.8	22.2	21.5	14.6	18.3	25.6	40.7	48.4	53.2	9
10	11.2	11.5	13	11.4	12.6	13.3	13.2	14.5	17	18.0	20.1	21.6	19.2	23.5	29	41.0	48.3	54.8	9.6	10.3	14.6	20.3	23.4	23.0	15.6	19.3	26.6	43.8	51.6	56.2	10
12	13.2	13.5	15	13.4	14.6	15.2	15.2	16.5	19	21.0	23.2	24.6	21.2	25.5	31	47.1	54.4	60.9	11.6	12.3	16.6	23.2	26.1	26.0	17.6	21.3	28.6	49.8	57.7	62.3	12
15	16.2	16.5	18	16.5	17.6	18.2	18.2	19.5	22	25.6	27.8	29.2	24.2	28.5	34	56.4	63.6	70.1	14.6	15.3	19.6	27.8	30.5	30.5	20.6	24.3	31.6	59.2	66.9	71.4	15

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

GABION CHECK DAM DESIGN TABLES

7-29-04 EC-STR-56

EROSION CONTROL PLAN LEGEND:  GABION CHECK DAM