

75° SKEW

2:1 SLOPE							
H	WL	hl	WS	hs	CONCRETE (C.Y.)	REINF. STEEL (LBS.)	
4	6.00	2.25	4.50	1.75	2.6	641	
4.5	6.75	2.50	5.25	2.00	4.7	710	
5	7.50	2.75	5.75	2.25	5.5	790	
5.5	8.50	3.00	6.50	2.50	6.7	935	
6	9.25	3.25	7.25	2.50	7.7	1,019	
6.5	10.00	3.75	7.75	2.75	8.9	1,096	
7	11.00	4.00	8.50	3.00	10.8	1,408	
7.5	11.75	4.25	9.00	3.25	12.1	1,515	
8	12.50	4.50	9.75	3.50	13.6	1,626	
8.5	13.50	4.75	10.25	3.75	15.3	1,773	
9	14.25	5.00	11.00	4.00	18.1	2,646	
9.5	15.00	5.50	11.50	4.25	20.0	2,725	
10	16.00	5.75	12.25	4.50	22.2	3,018	
10.5	16.75	6.00	12.75	4.75	24.2	3,146	
11	17.50	6.25	13.50	4.75	28.1	3,503	
11.5	18.50	6.50	14.25	5.00	31.3	4,373	
12	19.25	6.75	14.75	5.25	33.6	4,638	
12.5	20.00	7.25	15.50	5.50	37.0	4,832	
13	20.75	7.50	16.00	5.75	42.0	5,744	
13.5	21.25	7.75	16.75	6.00	44.8	6,169	
14	22.50	8.00	17.25	6.25	48.4	6,454	
14.5	23.25	8.25	18.00	6.50	51.5	6,822	
15	24.25	8.75	18.50	6.75	58.5	7,370	
15.5	25.00	9.00	19.25	7.00	63.9	8,362	
16	25.75	9.25	19.75	7.00	67.3	8,778	
16.5	26.75	9.50	20.50	7.25	71.8	10,207	
17	27.50	9.75	21.00	7.50	78.2	11,200	
17.5	28.25	10.00	21.75	7.75	82.6	11,188	
18	29.25	10.50	22.50	8.00	88.0	11,667	
18.5	30.00	10.75	23.00	8.25	92.4	11,878	
19	30.75	11.00	23.75	8.50	104.9	13,387	
19.5	31.75	11.25	24.25	8.75	110.2	15,072	
20	32.50	11.50	25.00	9.00	116.7	15,803	
20.5	33.25	11.75	25.50	9.00	121.6	16,206	
21	34.00	12.25	26.25	9.25	136.2	17,837	

3:1 SLOPE							
H	WL	hl	WS	hs	CONCRETE (C.Y.)	REINF. STEEL (LBS.)	
4	7.25	2.50	5.75	2.25	4.5	691	
4.5	8.25	3.00	6.75	2.50	5.7	761	
5	9.00	3.25	7.50	2.75	7.2	861	
5.5	10.00	3.75	8.25	3.00	8.5	1,017	
6	11.00	4.00	9.00	3.25	9.9	1,122	
6.5	12.00	4.25	9.75	3.50	11.4	1,207	
7	13.00	4.75	10.50	3.75	13.6	1,537	
7.5	14.00	5.00	11.25	4.00	15.7	1,672	
8	15.00	5.25	12.00	4.25	17.7	1,801	
8.5	15.75	5.75	12.75	4.75	19.7	1,987	
9	16.75	6.00	13.75	5.00	23.3	3,019	
9.5	17.75	6.25	14.50	5.25	25.7	3,112	
10	18.75	6.75	15.25	5.50	28.3	3,426	
10.5	19.75	7.00	16.00	5.75	31.4	3,627	
11	20.75	7.50	16.75	6.00	35.5	4,061	
11.5	21.50	7.75	17.50	6.25	39.5	4,904	
12	22.50	8.00	18.25	6.50	42.7	5,207	
12.5	23.50	8.50	19.00	6.75	46.3	5,388	
13	24.50	8.75	19.75	7.00	53.2	6,454	
13.5	25.50	9.00	20.75	7.50	55.3	6,892	
14	26.50	9.50	21.50	7.75	64.5	7,348	
14.5	27.50	9.75	22.25	8.00	68.8	7,780	
15	28.25	10.00	23.00	8.25	74.7	8,379	
15.5	29.25	10.50	23.75	8.50	79.6	9,359	
16	30.25	10.75	24.50	8.75	84.4	9,839	
16.5	31.25	11.00	25.25	9.00	92.9	11,836	
17	32.25	11.50	26.00	9.25	101.8	12,984	
17.5	33.25	11.75	26.75	9.50	107.4	12,925	
18	34.00	12.25	27.75	9.75	111.4	13,414	
18.5	35.00	12.50	28.50	10.25	119.7	13,702	
19	36.00	12.75	29.25	10.50	131.7	15,117	
19.5	37.00	13.25	30.00	10.75	142.2	17,331	
20	38.00	13.50	30.75	11.00	151.8	18,121	
20.5	39.00	13.75	31.50	11.25	158.9	18,687	
21	39.75	14.25	32.25	11.50	176.7	20,378	

4:1 SLOPE							
H	WL	hl	WS	hs	CONCRETE (C.Y.)	REINF. STEEL (LBS.)	
4	8.00	3.00	6.75	2.50	5.5	730	
4.5	9.00	3.25	7.50	2.75	6.4	792	
5	10.00	3.75	8.50	3.00	8.3	907	
5.5	11.00	4.00	9.25	3.50	9.7	1,070	
6	12.25	4.50	10.25	3.75	11.5	1,181	
6.5	13.25	4.75	11.00	4.00	13.1	1,267	
7	14.25	5.00	12.00	4.25	15.9	1,640	
7.5	15.25	5.50	12.75	4.75	18.0	1,768	
8	16.25	5.75	13.75	5.00	20.6	1,922	
8.5	17.50	6.25	14.50	5.25	23.1	2,125	
9	18.50	6.50	15.50	5.50	25.6	3,192	
9.5	19.50	7.00	16.25	5.75	29.7	3,370	
10	20.50	7.25	17.25	6.25	32.8	3,702	
10.5	21.50	7.75	18.00	6.50	35.8	3,787	
11	22.50	8.00	19.00	6.75	41.5	4,316	
11.5	23.75	8.50	19.75	7.00	45.8	5,381	
12	24.75	8.75	20.75	7.50	49.7	5,674	
12.5	25.75	9.25	21.75	7.75	54.6	5,991	
13	26.75	9.50	22.50	8.00	61.7	6,969	
13.5	27.75	10.00	23.50	8.25	66.4	7,560	
14	29.00	10.25	24.25	8.75	71.2	7,894	
14.5	30.00	10.75	25.25	9.00	77.2	8,414	
15	31.00	11.00	26.00	9.25	88.8	9,221	

6:1 SLOPE							
H	WL	hl	WS	hs	CONCRETE (C.Y.)	REINF. STEEL (LBS.)	
4	9.00	3.25	7.75	2.25	6.1	771	
4.5	10.00	3.75	8.75	3.25	7.6	843	
5	11.25	4.00	9.75	3.50	9.6	965	
5.5	12.25	4.50	10.75	4.00	11.3	1,146	
6	13.50	4.75	11.75	4.25	13.2	1,267	
6.5	14.75	5.25	12.75	4.75	15.4	1,370	
7	15.75	5.75	13.75	5.00	20.3	1,847	

CONST. NO.			
PROJECT NO.	YEAR	SHEET NO.	
2010			
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

NOTE: QUANTITIES ON THIS SHEET ARE ESTIMATED TOTALS FOR ALL FOUR WINGWALLS.
 NOTE: ADDITIONAL CONCRETE AND REINFORCEMENT QUANTITIES FOR BOX CULVERT CUT-OFF WALL SHALL BE ADJUSTED BASED ON AS-BUILT DIMENSIONS.

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DESIGNED BY: CMH / MAH DATE: 12-09
 DRAWN BY: DIANE BUSH DATE: 04-10
 SUPERVISED BY: R/LH / JWP / MAH DATE: 12-09
 CHECKED BY: _____ DATE: _____

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
**WINGWALL DIMENSIONS
 AND QUANTITIES**
**STANDARD REINFORCED
 CONCRETE BRIDGE
 BOX AND SLAB TYPE**
 2010
 CORRECT *Edward P. Wasserman*
ENGINEER OF STRUCTURES