

SPAN		HIGHT		REINFORCING STEEL											QUAN./LF		HEADWALLS							WINGWALL		
(FT.)	(FT.)	SIZE	SPACING C-C	a	b	c	d	e	f	g	LENGTH	NO. BL1 BARS	NO. BL2 BARS	REINFORCING STEEL (LBS./LONG. JT)	CONCRETE CLASS A4 (CY/LF)	REINFORCING STEEL (LBS./LF)	HEADWALL LENGTH	SIZE	LENGTH	NO. HW2 BARS	NO. HW3 BARS	INLET CONCRETE CL. A4 (CY)	INLET REINFORCING STEEL (LBS)		OUTLET CONCRETE CL. A4 (CY)	OUTLET REINFORCING STEEL (LBS)
3	3	4	12"	2'- 8 3/8"	0'- 4 1/2"	1'- 6 5/8"	0'- 5 3/8"	0'- 3 3/4"	7'- 7 1/8"	-----	7'- 11"	32	12	30.956	0.695	79.439	9'- 6"	6	9'- 2"	1	4	1.433	67.988	1.425	55.073	A
3	4	4	12"	2'- 8 3/8"	0'- 4 1/2"	1'- 6 5/8"	0'- 5 3/8"	0'- 3 3/4"	7'- 7 1/8"	-----	7'- 11"	32	18	33.074	0.768	85.703	9'- 6"	6	9'- 2"	1	5	1.531	71.439	1.517	55.073	C
4	3	4	12"	3'- 6 1/2"	0'- 4 1/2"	1'- 11 1/2"	0'- 5 3/8"	0'- 3 3/4"	9'- 8"	-----	9'- 11"	40	12	37.636	0.792	92.688	11'- 6"	6	11'- 2"	1	4	1.635	80.004	1.634	67.089	A
4	4	4	12"	3'- 6 1/2"	0'- 4 1/2"	1'- 11 1/2"	0'- 5 3/8"	0'- 3 3/4"	9'- 8"	-----	9'- 11"	40	18	39.754	0.866	98.952	11'- 6"	6	11'- 2"	1	5	1.734	83.455	1.726	67.089	C
4	5	4	12"	3'- 6 1/2"	0'- 4 1/2"	1'- 11 1/2"	0'- 5 3/8"	0'- 3 3/4"	9'- 8"	-----	9'- 11"	40	24	41.872	0.940	105.216	11'- 6"	6	11'- 2"	1	6	1.833	86.907	1.819	67.089	E
4	6	4	12"	3'- 6 1/2"	0'- 4 1/2"	1'- 11 1/2"	0'- 5 3/8"	0'- 3 3/4"	9'- 8"	-----	9'- 11"	40	30	43.990	1.013	111.480	11'- 6"	6	11'- 2"	1	7	1.932	90.358	1.912	67.089	G
5	3	4	12"	4'- 3 3/8"	0'- 5 1/2"	2'- 3 1/4"	0'- 7 1/4"	0'- 4 3/4"	11'- 8"	-----	12'- 0"	48	12	44.316	0.964	114.208	13'- 6"	6	13'- 2"	1	4	1.820	92.020	1.825	79.105	A
5	4	4	12"	4'- 3 3/8"	0'- 5 1/2"	2'- 3 1/4"	0'- 7 1/4"	0'- 4 3/4"	11'- 8"	-----	12'- 0"	48	18	46.434	1.037	120.472	13'- 6"	6	13'- 2"	1	5	1.919	95.471	1.918	79.105	C
5	5	4	12"	4'- 3 3/8"	0'- 5 3/4"	2'- 3"	0'- 7 5/8"	0'- 5"	11'- 8"	-----	12'- 0"	48	24	48.552	1.130	119.467	13'- 6"	6	13'- 2"	1	6	2.032	98.923	2.025	79.105	F
5	6	4	12"	4'- 3 3/8"	0'- 5 3/4"	2'- 3"	0'- 7 5/8"	0'- 5"	11'- 8"	-----	12'- 0"	48	30	50.670	1.203	133.000	13'- 6"	6	13'- 2"	1	7	2.131	102.374	2.118	79.105	H
5	7	4	12"	4'- 3 3/8"	0'- 5 3/4"	2'- 3"	0'- 7 5/8"	0'- 5"	11'- 8"	-----	12'- 0"	48	36	52.788	1.276	144.687	13'- 6"	6	13'- 2"	1	8	2.230	105.825	2.210	79.105	J
6	4	4	12"	5'- 3/8"	0'- 7 1/4"	2'- 6 1/4"	0'- 9 3/4"	0'- 6 1/2"	13'- 8"	-----	14'- 1"	56	18	53.114	1.298	135.447	15'- 6"	6	15'- 2"	1	5	2.092	107.487	2.098	91.121	D
6	5	4	11"	5'- 3/8"	0'- 7 1/4"	2'- 6 1/4"	0'- 9 3/4"	0'- 6 1/2"	13'- 8"	-----	14'- 1"	56	24	55.232	1.372	140.337	15'- 6"	6	15'- 2"	1	6	2.191	110.939	2.191	91.121	F
6	6	4	11"	5'- 1/4"	0'- 7 1/2"	2'- 6"	0'- 10 1/8"	0'- 6 3/4"	13'- 8"	-----	14'- 2"	56	30	57.350	1.467	147.066	15'- 6"	6	15'- 2"	1	7	2.284	114.390	2.277	91.121	H
6	7	4	11"	5'- 1/4"	0'- 7 1/2"	2'- 6"	0'- 10 1/8"	0'- 6 3/4"	13'- 8"	-----	14'- 2"	56	36	59.468	1.540	168.512	15'- 6"	6	15'- 2"	1	8	2.383	117.841	2.370	91.121	J
6	8	4	11"	5'- 1/4"	0'- 7 1/2"	2'- 6"	0'- 10 1/8"	0'- 6 3/4"	13'- 8"	-----	14'- 2"	56	42	61.586	1.613	176.711	15'- 6"	6	15'- 2"	1	9	2.482	121.293	2.463	91.121	L
7	4	4	9"	5'- 9 1/4"	0'- 8 3/4"	2'- 9 5/8"	0'- 11 7/8"	0'- 8"	15'- 8 1/8"	-----	16'- 3"	64	18	59.794	1.577	168.350	17'- 6"	6	17'- 2"	1	5	2.233	119.503	2.245	103.137	D
7	6	4	9"	5'- 9"	0'- 9 1/4"	2'- 9 1/8"	1'- 1/2"	0'- 8 1/2"	15'- 8 1/8"	-----	16'- 3"	64	30	64.030	1.773	181.768	17'- 6"	6	17'- 2"	1	7	2.416	126.406	2.416	103.137	H
7	8	4	9"	5'- 9"	0'- 9 1/4"	2'- 9 1/8"	1'- 1/2"	0'- 8 1/2"	15'- 8 1/8"	-----	16'- 3"	64	42	68.266	1.919	207.568	17'- 6"	6	17'- 2"	1	9	2.613	133.309	2.601	103.137	L
7	10	4	9"	5'- 8 3/8"	0'- 9 1/2"	2'- 8 3/8"	1'- 3/8"	0'- 8 3/4"	15'- 8 1/8"	-----	16'- 3"	64	54	72.502	2.089	255.461	17'- 6"	6	17'- 2"	1	11	2.804	140.211	2.779	103.137	P
8	4	4	8"	6'- 6"	0'- 10 1/4"	3'- 7/8"	1'- 2"	0'- 9 1/2"	17'- 7 3/8"	-----	18'- 4"	72	18	66.474	1.891	217.592	19'- 6"	6	19'- 2"	1	5	2.355	131.519	2.374	115.153	D
8	6	4	8"	6'- 6"	0'- 10 1/4"	3'- 7/8"	1'- 2"	0'- 9 1/2"	17'- 7 3/8"	-----	18'- 4"	72	30	70.710	2.038	231.456	19'- 6"	6	19'- 2"	1	7	2.553	138.422	2.559	115.153	H
8	8	5	9"	6'- 5 7/8"	0'- 10 5/8"	3'- 5/8"	1'- 2 3/8"	0'- 9 3/4"	17'- 7 3/8"	-----	18'- 4"	72	42	74.946	2.212	258.495	19'- 6"	6	19'- 2"	1	9	2.741	145.325	2.736	115.153	L
8	10	5	9"	6'- 5 7/8"	0'- 10 5/8"	3'- 5/8"	1'- 2 3/8"	0'- 9 3/4"	17'- 7 3/8"	-----	18'- 4"	72	54	79.182	2.356	306.482	19'- 6"	6	19'- 2"	1	11	2.939	152.227	2.921	115.153	P
9	4	5	9"	7'- 2 7/8"	0'- 11 7/8"	3'- 4 1/4"	1'- 4 1/8"	0'- 11"	19'- 8"	-----	20'- 5"	80	18	73.154	2.241	281.162	21'- 6"	6	21'- 2"	1	5	2.477	143.535	2.503	127.169	E
9	6	5	9"	7'- 2 3/4"	1'- 1/8"	3'- 4"	1'- 4 1/2"	0'- 11 1/4"	19'- 8"	-----	20'- 5"	80	30	77.390	2.419	294.581	21'- 6"	6	21'- 2"	1	7	2.664	150.438	2.678	127.169	I
9	8	5	9"	7'- 2 3/4"	1'- 1/8"	3'- 4"	1'- 4 1/2"	0'- 11 1/4"	19'- 8"	-----	20'- 5"	80	42	81.626	2.565	320.867	21'- 6"	6	21'- 2"	1	9	2.862	157.341	2.863	127.169	M
9	10	5	9"	7'- 2 3/4"	1'- 1/8"	3'- 4"	1'- 4 1/2"	0'- 11 1/4"	19'- 8"	-----	20'- 5"	80	54	85.862	2.710	369.855	21'- 6"	6	21'- 2"	1	11	3.060	164.243	3.048	127.169	Q
9	12	5	9"	7'- 2 3/4"	1'- 1/8"	3'- 4"	1'- 4 1/2"	0'- 11 1/4"	19'- 8"	-----	20'- 5"	80	66	90.098	2.852	446.001	21'- 6"	6	21'- 2"	1	13	3.258	171.146	3.234	127.169	U
10	4	6	9"	7'- 11 3/4"	1'- 1 1/2"	3'- 7 1/2"	1'- 6 3/8"	1'- 1/2"	21'- 8"	-----	22'- 6"	88	18	79.834	2.631	311.934	23'- 6"	6	23'- 2"	1	5	2.562	155.551	2.594	139.185	E
10	6	6	9"	7'- 11 3/4"	1'- 1 1/2"	3'- 7 1/2"	1'- 6 3/8"	1'- 1/2"	21'- 8"	-----	22'- 6"	88	30	84.070	2.776	347.513	23'- 6"	6	23'- 2"	1	7	2.760	162.454	2.780	139.185	I
10	8	6	9"	7'- 11 5/8"	1'- 1 3/4"	3'- 7 1/4"	1'- 6 3/4"	1'- 3/4"	21'- 8"	-----	22'- 6"	88	42	88.306	2.956	374.751	23'- 6"	6	23'- 2"	1	9	2.946	169.357	2.953	139.185	M
10	10	6	9"	7'- 11 5/8"	1'- 1 3/4"	3'- 7 1/4"	1'- 6 3/4"	1'- 3/4"	21'- 8"	-----	22'- 6"	88	54	92.542	3.101	424.856	23'- 6"	6	23'- 2"	1	11	3.143	176.259	3.139	139.185	Q
10	12	6	9"	7'- 11 1/2"	1'- 2"	3'- 7"	1'- 7 1/8"	1'- 1"	21'- 8"	-----	22'- 7"	88	66	96.778	3.277	503.315	23'- 6"	6	23'- 2"	1	13	3.329	183.162	3.312	139.185	U
12	6	6	9"	9'- 5 1/2"	1'- 4 1/2"	4'- 2 1/8"	1'- 10 5/8"	1'- 3 1/2"	25'- 8 1/8"	-----	26'- 9"	104	30	97.430	3.662	467.331	27'- 6"	6	27'- 2"	1	7	2.874	186.486	2.908	163.217	I
12	8	6	9"	9'- 5 1/2"	1'- 4 1/2"	4'- 2 1/8"	1'- 10 5/8"	1'- 3 1/2"	25'- 8 1/8"	-----	26'- 9"	104	42	101.666	3.808	496.491	27'- 6"	6	27'- 2"	1	9	3.072	193.389	3.093	163.217	M
12	10	6	9"	9'- 5 1/2"	1'- 4 1/2"	4'- 2 1/8"	1'- 10 5/8"	1'- 3 1/2"	25'- 8 1/8"	-----	26'- 9"	104	54	105.902	3.952	549.312	27'- 6"	6	27'- 2"	1	11	3.270	200.291	3.279	163.217	Q
12	12	6	9"	9'- 5 1/2"	1'- 4 1/2"	4'- 2 1/8"	1'- 10 5/8"	1'- 3 1/2"	25'- 8 1/8"	-----	26'- 9"	104	66	110.138	4.095	619.939	27'- 6"	6	27'- 2"	1	13	3.468	207.194	3.464	163.217	U

STRUCTURE AND BRIDGE DIVISION

DOUBLE BOX CULVERTS
20 TO 25 FT. FILLS
VIRGINIA DEPARTMENT OF TRANSPORTATION