

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	HW I 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 7/8"	0'- 4 1/2"	1'- 6 5/8"	0'- 5 7/8"	0'- 3 3/4"	7'- 7 7/8"	-----	7'-11"	38	12	35.966	0.694	83.447	9'- 6"	6	9'- 2"	1	4	1.433	67.988	1.425	55.073	A
3	4	4	12"	2'- 8 3/4"	0'- 4 3/4"	1'- 6 3/8"	0'- 6 1/4"	0'- 4"	7'- 7 7/8"	-----	7'-11"	38	18	38.084	0.780	89.711	9'- 6"	6	9'- 2"	1	5	1.530	71.439	1.516	55.073	C
4	3	4	12"	3'- 6 3/8"	0'- 4 3/4"	1'-11 1/4"	0'- 6 1/4"	0'- 4"	9'- 8"	-----	9'-11"	48	12	44.316	0.807	99.018	11'- 6"	6	11'- 2"	1	4	1.632	80.004	1.631	67.089	A
4	4	4	12"	3'- 6 1/4"	0'- 5"	1'-11"	0'- 6 1/2"	0'- 4 1/4"	9'- 8"	-----	9'-11"	48	18	46.434	0.896	104.741	11'- 6"	6	11'- 2"	1	5	1.728	83.455	1.721	67.089	C
4	5	4	12"	3'- 6 1/4"	0'- 5"	1'-11"	0'- 6 1/2"	0'- 4 1/4"	9'- 8"	-----	9'-11"	48	24	48.552	0.970	111.005	11'- 6"	6	11'- 2"	1	6	1.827	86.907	1.813	67.089	E
4	6	4	12"	3'- 6 1/4"	0'- 5"	1'-11"	0'- 6 1/2"	0'- 4 1/4"	9'- 8"	-----	9'-11"	48	30	50.670	1.044	117.269	11'- 6"	6	11'- 2"	1	7	1.926	90.358	1.906	67.089	G
5	3	4	12"	4'- 3 3/8"	0'- 5"	2'- 3 3/4"	0'- 6 1/2"	0'- 4 1/4"	11'- 8"	-----	11'-11"	58	12	52.666	0.927	113.062	13'- 6"	6	13'- 2"	1	4	1.828	92.020	1.834	79.105	A
5	4	4	11"	4'- 3 3/8"	0'- 5"	2'- 3 3/4"	0'- 6 1/2"	0'- 4 1/4"	11'- 8"	-----	11'-11"	58	18	54.784	1.000	124.802	13'- 6"	6	13'- 2"	1	5	1.927	95.471	1.927	79.105	C
5	5	4	11"	4'- 3 3/8"	0'- 5"	2'- 3 3/4"	0'- 6 1/2"	0'- 4 1/4"	11'- 8"	-----	11'-11"	58	24	56.902	1.073	131.187	13'- 6"	6	13'- 2"	1	6	2.026	98.923	2.019	79.105	E
5	6	4	11"	4'- 3 3/8"	0'- 5"	2'- 3 3/4"	0'- 6 1/2"	0'- 4 1/4"	11'- 8"	-----	11'-11"	58	30	59.020	1.147	137.572	13'- 6"	6	13'- 2"	1	7	2.125	102.374	2.112	79.105	G
5	7	4	11"	4'- 3 3/4"	0'- 5 1/4"	2'- 3 1/2"	0'- 6 7/8"	0'- 4 1/2"	11'- 8"	-----	12'- 0"	58	36	61.138	1.239	144.545	13'- 6"	6	13'- 2"	1	8	2.220	105.825	2.200	79.105	I
6	4	4	10"	5'- 1 1/2"	0'- 5"	2'- 8 1/2"	0'- 6 1/2"	0'- 4 1/4"	13'- 8"	-----	13'-11"	68	18	63.134	1.103	147.805	15'- 6"	6	15'- 2"	1	5	2.127	107.487	2.133	91.121	C
6	5	4	10"	5'- 1 3/8"	0'- 5 1/4"	2'- 8 1/4"	0'- 6 7/8"	0'- 4 1/2"	13'- 8"	-----	14'- 0"	68	24	65.252	1.198	154.693	15'- 6"	6	15'- 2"	1	6	2.220	110.939	2.219	91.121	E
6	6	4	9"	5'- 1 3/8"	0'- 5 1/4"	2'- 8 1/4"	0'- 6 7/8"	0'- 4 1/2"	13'- 8"	-----	14'- 0"	68	30	67.370	1.271	170.709	15'- 6"	6	15'- 2"	1	7	2.319	114.390	2.312	91.121	G
6	7	4	9"	5'- 1 3/8"	0'- 5 1/4"	2'- 8 1/4"	0'- 6 7/8"	0'- 4 1/2"	13'- 8"	-----	14'- 0"	68	36	69.488	1.345	177.419	15'- 6"	6	15'- 2"	1	8	2.417	117.841	2.405	91.121	I
6	8	4	9"	5'- 1 3/8"	0'- 5 1/4"	2'- 8 1/4"	0'- 6 7/8"	0'- 4 1/2"	13'- 8"	-----	14'- 0"	68	42	71.606	1.418	184.128	15'- 6"	6	15'- 2"	1	9	2.516	121.293	2.498	91.121	K
7	4	4	9"	5'-11"	0'- 5 1/4"	3'- 1 1/8"	0'- 6 7/8"	0'- 4 1/2"	15'- 8 1/8"	-----	16'- 0"	78	18	71.484	1.229	194.732	17'- 6"	6	17'- 2"	1	5	2.318	119.503	2.331	103.137	C
7	6	4	8"	5'-11"	0'- 5 1/4"	3'- 1 1/8"	0'- 6 7/8"	0'- 4 1/2"	15'- 8 1/8"	-----	16'- 0"	78	30	75.720	1.375	223.564	17'- 6"	6	17'- 2"	1	7	2.516	126.406	2.516	103.137	G
7	8	4	8"	5'-11"	0'- 5 1/4"	3'- 1 1/8"	0'- 6 7/8"	0'- 4 1/2"	15'- 8 1/8"	-----	16'- 0"	78	42	79.956	1.522	237.011	17'- 6"	6	17'- 2"	1	9	2.714	133.309	2.702	103.137	K
7	10	5	12"	5'-10 7/8"	0'- 5 5/8"	3'- 7/8"	0'- 7 3/8"	0'- 4 3/4"	15'- 8 1/8"	-----	16'- 0"	78	54	84.192	1.694	248.707	17'- 6"	6	17'- 2"	1	11	2.904	140.211	2.880	103.137	O
8	4	5	11"	6'- 8 1/2"	0'- 5 3/8"	3'- 5 5/8"	0'- 7"	0'- 4 1/2"	17'- 7 7/8"	-----	17'-11"	88	18	79.834	1.334	241.539	19'- 6"	6	19'- 2"	1	5	2.516	131.519	2.535	115.153	C
8	6	5	11"	6'- 8 1/2"	0'- 5 3/8"	3'- 5 5/8"	0'- 7"	0'- 4 1/2"	17'- 7 7/8"	-----	17'-11"	88	30	84.070	1.481	256.481	19'- 6"	6	19'- 2"	1	7	2.714	138.422	2.721	115.153	G
8	8	5	11"	6'- 8 3/8"	0'- 5 5/8"	3'- 5 5/8"	0'- 7 3/8"	0'- 4 3/4"	17'- 7 7/8"	-----	18'- 0"	88	42	88.306	1.655	270.912	19'- 6"	6	19'- 2"	1	9	2.903	145.325	2.897	115.153	K
8	10	5	10"	6'- 8 3/8"	0'- 5 5/8"	3'- 5 5/8"	0'- 7 3/8"	0'- 4 3/4"	17'- 7 7/8"	-----	18'- 0"	88	54	92.542	1.801	302.391	19'- 6"	6	19'- 2"	1	11	3.101	152.227	3.083	115.153	O
9	4	5	10"	7'- 6 1/8"	0'- 5 3/8"	3'-10 3/4"	0'- 7"	0'- 4 1/2"	19'- 8"	-----	20'- 0"	98	18	88.184	1.439	281.575	21'- 6"	6	21'- 2"	1	5	2.714	143.535	2.740	127.169	C
9	6	5	9"	7'- 6 1/8"	0'- 5 3/8"	3'-10 3/4"	0'- 7"	0'- 4 1/2"	19'- 8"	-----	20'- 0"	98	30	92.420	1.584	318.683	21'- 6"	6	21'- 2"	1	7	2.912	150.438	2.925	127.169	G
9	8	5	10"	7'- 5 3/4"	0'- 6 1/8"	3'-10"	0'- 8 1/8"	0'- 5 1/4"	19'- 8"	-----	20'- 0"	98	42	96.656	1.825	312.110	21'- 6"	6	21'- 2"	1	9	3.096	157.341	3.097	127.169	L
9	10	5	9"	7'- 5 5/8"	0'- 6 3/8"	3'- 9 3/4"	0'- 8 3/8"	0'- 5 1/2"	19'- 8"	-----	20'- 0"	98	54	100.892	2.001	349.834	21'- 6"	6	21'- 2"	1	11	3.284	164.243	3.272	127.169	P
9	12	6	12"	7'- 5 5/8"	0'- 6 1/2"	3'- 9 3/4"	0'- 8 1/2"	0'- 5 1/2"	19'- 8"	-----	20'- 0"	98	66	105.128	2.147	385.357	21'- 6"	6	21'- 2"	1	13	3.482	171.146	3.458	127.169	T
10	4	5	9"	8'- 3 3/8"	0'- 6 1/8"	4'- 2 3/4"	0'- 8 1/8"	0'- 5 1/4"	21'- 8"	-----	22'- 0"	108	18	96.534	1.645	329.403	23'- 6"	6	23'- 2"	1	5	2.894	155.551	2.926	139.185	D
10	6	5	9"	8'- 3 3/8"	0'- 6 1/8"	4'- 2 3/4"	0'- 8 1/8"	0'- 5 1/4"	21'- 8"	-----	22'- 0"	108	30	100.770	1.792	345.162	23'- 6"	6	23'- 2"	1	7	3.092	162.454	3.112	139.185	H
10	8	6	12"	8'- 3 1/4"	0'- 6 1/2"	4'- 2 1/2"	0'- 8 1/2"	0'- 5 1/2"	21'- 8"	-----	22'- 0"	108	42	105.006	1.971	380.754	23'- 6"	6	23'- 2"	1	9	3.277	169.357	3.285	139.185	L
10	10	5	8"	8'- 3 1/4"	0'- 6 3/8"	4'- 2 1/2"	0'- 8 3/8"	0'- 5 1/2"	21'- 8"	-----	22'- 0"	108	54	109.242	2.117	407.060	23'- 6"	6	23'- 2"	1	11	3.475	176.259	3.471	139.185	P
10	12	5	8"	8'- 3 1/8"	0'- 6 5/8"	4'- 2 1/4"	0'- 8 3/4"	0'- 5 3/4"	21'- 8"	-----	22'- 1"	108	66	113.478	2.298	424.989	23'- 6"	6	23'- 2"	1	13	3.661	183.162	3.644	139.185	T
12	6	6	12"	9'-10 1/8"	0'- 7 1/4"	4'-11 3/8"	0'- 9 5/8"	0'- 6 1/4"	25'- 8 1/8"	-----	26'- 1"	128	30	117.470	2.181	420.953	27'- 6"	6	27'- 2"	1	7	3.417	186.486	3.450	163.217	H
12	8	5	8"	9'-10"	0'- 7 3/8"	4'-11 1/8"	0'- 9 7/8"	0'- 6 1/2"	25'- 8 1/8"	-----	26'- 1"	128	42	121.706	2.367	447.275	27'- 6"	6	27'- 2"	1	9	3.600	193.389	3.621	163.217	L
12	10	6	10"	9'-10"	0'- 7 1/2"	4'-11 1/8"	0'- 9 7/8"	0'- 6 1/2"	25'- 8 1/8"	-----	26'- 1"	128	54	125.942	2.511	513.660	27'- 6"	6	27'- 2"	1	11	3.798	200.291	3.806	163.217	P
12	12	6	9"	9'- 9 7/8"	0'- 7 3/4"	4'-10 7/8"	0'-10 1/4"	0'- 6 3/4"	25'- 8 1/8"	-----	26'- 1"	128	66	130.178	2.699	516.218	27'- 6"	6	27'- 2"	1	13	3.980	207.194	3.976	163.217	T

STRUCTURE AND BRIDGE DIVISION

DOUBLE BOX CULVERTS
0 TO 2 FT. FILLS
VIRGINIA DEPARTMENT OF TRANSPORTATION