

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 7/8"	0'- 3 3/4"	14'- 11 7/8"	1'- 5 7/8"	15'- 9"	60	20	57.160	1.284	141.899	16'- 10"	6	16'- 6"	3	12	2.222	137.876	2.191	99.132	A
3	4	4	12"	2'- 8 3/8"	0'- 4 1/2"	1'- 6 5/8"	0'- 5 7/8"	0'- 3 3/4"	14'- 11 7/8"	1'- 5 7/8"	15'- 9"	60	30	60.690	1.406	152.339	16'- 10"	6	16'- 6"	3	15	2.333	148.230	2.284	99.132	C
4	3	3	12"	3'- 6 1/2"	0'- 4 3/8"	1'- 11 3/8"	0'- 5 7/8"	0'- 3 3/8"	19'- 1 1/8"	2'- 7/8"	19'- 10"	76	20	70.520	1.480	157.037	20'- 10"	6	20'- 6"	3	12	2.626	161.908	2.609	123.164	A
4	4	4	12"	3'- 6 1/2"	0'- 4 1/2"	1'- 11 1/2"	0'- 5 7/8"	0'- 3 3/4"	19'- 0"	2'- 1"	19'- 9"	76	30	74.050	1.602	178.948	20'- 10"	6	20'- 6"	3	15	2.738	172.262	2.702	123.164	C
4	5	4	12"	3'- 6 1/2"	0'- 4 1/2"	1'- 11 1/2"	0'- 5 7/8"	0'- 3 3/4"	19'- 0"	2'- 1"	19'- 9"	76	40	77.580	1.724	189.388	20'- 10"	6	20'- 6"	3	18	2.849	182.616	2.794	123.164	E
4	6	4	12"	3'- 6 1/2"	0'- 4 1/2"	1'- 11 1/2"	0'- 5 7/8"	0'- 3 3/4"	19'- 0"	2'- 1"	19'- 9"	76	50	81.110	1.847	199.828	20'- 10"	6	20'- 6"	3	21	2.960	192.970	2.887	123.164	G
5	3	4	12"	4'- 4 1/8"	0'- 4 1/2"	2'- 4 1/4"	0'- 5 7/8"	0'- 3 3/4"	23'- 0"	2'- 8 1/4"	23'- 9"	92	20	83.880	1.675	195.339	24'- 10"	6	24'- 6"	3	12	3.031	185.940	3.027	147.196	A
5	4	4	12"	4'- 4 1/8"	0'- 4 1/2"	2'- 4 1/4"	0'- 5 7/8"	0'- 3 3/4"	23'- 0"	2'- 8 1/4"	23'- 9"	92	30	87.410	1.797	205.779	24'- 10"	6	24'- 6"	3	15	3.142	196.294	3.120	147.196	C
5	5	4	12"	4'- 4 1/8"	0'- 4 1/2"	2'- 4 1/4"	0'- 5 7/8"	0'- 3 3/4"	23'- 0"	2'- 8 1/4"	23'- 9"	92	40	90.940	1.920	216.219	24'- 10"	6	24'- 6"	3	18	3.254	206.648	3.212	147.196	E
5	6	4	12"	4'- 4 1/8"	0'- 4 1/2"	2'- 4 1/4"	0'- 5 7/8"	0'- 3 3/4"	23'- 0"	2'- 8 1/4"	23'- 9"	92	50	94.470	2.043	226.659	24'- 10"	6	24'- 6"	3	21	3.365	217.002	3.305	147.196	G
5	7	4	12"	4'- 4 1/8"	0'- 4 1/2"	2'- 4 1/4"	0'- 5 7/8"	0'- 3 3/4"	23'- 0"	2'- 8 1/4"	23'- 9"	92	60	98.000	2.165	237.099	24'- 10"	6	24'- 6"	3	24	3.476	227.356	3.398	147.196	I
6	4	4	12"	5'- 1 3/4"	0'- 4 1/2"	2'- 9"	0'- 5 7/8"	0'- 3 3/4"	27'- 0"	3'- 3 1/2"	27'- 9"	108	30	100.770	1.992	240.415	28'- 10"	6	28'- 6"	3	15	3.547	220.326	3.537	171.228	C
6	5	4	12"	5'- 1 3/4"	0'- 4 1/2"	2'- 9"	0'- 5 7/8"	0'- 3 3/4"	27'- 0"	3'- 3 1/2"	27'- 9"	108	40	104.300	2.114	256.633	28'- 10"	6	28'- 6"	3	18	3.658	230.680	3.630	171.228	E
6	6	4	12"	5'- 1 3/4"	0'- 4 1/2"	2'- 9"	0'- 5 7/8"	0'- 3 3/4"	27'- 0"	3'- 3 1/2"	27'- 9"	108	50	107.830	2.237	267.073	28'- 10"	6	28'- 6"	3	21	3.770	241.034	3.723	171.228	G
6	7	4	12"	5'- 1 5/8"	0'- 4 3/4"	2'- 8 3/4"	0'- 6 1/4"	0'- 4"	27'- 0"	3'- 3 1/4"	27'- 10"	108	60	111.360	2.402	277.625	28'- 10"	6	28'- 6"	3	24	3.865	251.388	3.799	171.228	I
6	8	4	12"	5'- 1 5/8"	0'- 4 3/4"	2'- 8 3/4"	0'- 6 1/4"	0'- 4"	27'- 0"	3'- 3 1/4"	27'- 10"	108	70	114.890	2.525	288.065	28'- 10"	6	28'- 6"	3	27	3.976	261.742	3.892	171.228	K
7	4	4	11"	5'- 10 7/8"	0'- 5 1/2"	3'- 7/8"	0'- 7 1/4"	0'- 4 3/4"	31'- 1 1/8"	3'- 9 5/8"	32'- 0"	124	30	114.130	2.380	283.228	32'- 10"	6	32'- 6"	3	15	3.875	244.358	3.878	195.260	C
7	6	4	11"	5'- 10 3/4"	0'- 5 3/4"	3'- 5/8"	0'- 7 5/8"	0'- 5"	31'- 1 1/8"	3'- 9 5/8"	32'- 1"	124	50	121.190	2.673	305.481	32'- 10"	6	32'- 6"	3	21	4.097	265.066	4.063	195.260	H
7	8	4	10"	5'- 10 3/4"	0'- 5 3/4"	3'- 5/8"	0'- 7 5/8"	0'- 5"	31'- 1 1/8"	3'- 9 5/8"	32'- 1"	124	70	128.250	2.918	341.495	32'- 10"	6	32'- 6"	3	27	4.319	285.774	4.248	195.260	L
7	10	4	10"	5'- 10 3/8"	0'- 6"	3'- 3/8"	0'- 8"	0'- 5 1/4"	31'- 1 1/8"	3'- 9 1/8"	32'- 1"	124	90	135.310	3.210	382.942	32'- 10"	6	32'- 6"	3	33	4.523	306.482	4.415	195.260	P
8	4	4	9"	6'- 7 7/8"	0'- 6 1/2"	3'- 4 5/8"	0'- 8 5/8"	0'- 5 3/4"	34'- 11 7/8"	4'- 3 3/8"	36'- 2"	140	30	127.490	2.815	354.775	36'- 10"	6	36'- 6"	3	15	4.196	268.390	4.213	219.292	D
8	6	4	9"	6'- 7 3/4"	0'- 6 3/4"	3'- 4 3/8"	0'- 9"	0'- 6"	34'- 11 1/8"	4'- 3 3/8"	36'- 3"	140	50	134.550	3.114	377.228	36'- 10"	6	36'- 6"	3	21	4.396	289.098	4.376	219.292	H
8	8	4	9"	6'- 7 5/8"	0'- 7"	3'- 4 1/8"	0'- 9 3/8"	0'- 6 1/4"	34'- 11 7/8"	4'- 3 3/8"	36'- 3"	140	70	141.610	3.411	435.998	36'- 10"	6	36'- 6"	3	27	4.597	309.806	4.539	219.292	L
8	10	4	9"	6'- 7 5/8"	0'- 7"	3'- 4 1/8"	0'- 9 3/8"	0'- 6 1/4"	34'- 11 7/8"	4'- 3 3/8"	36'- 3"	140	90	148.670	3.659	426.155	36'- 10"	6	36'- 6"	3	33	4.819	330.514	4.725	219.292	P
9	4	4	9"	7'- 5"	0'- 7 1/2"	3'- 8 1/2"	0'- 10 1/8"	0'- 6 3/4"	39'- 0"	4'- 10"	40'- 5"	156	30	140.850	3.296	464.778	40'- 10"	6	40'- 6"	3	15	4.474	292.422	4.504	243.324	D
9	6	4	9"	7'- 4 7/8"	0'- 7 3/4"	3'- 8 1/4"	0'- 10 1/2"	0'- 7"	39'- 0"	4'- 9 3/4"	40'- 6"	156	50	147.910	3.602	484.578	40'- 10"	6	40'- 6"	3	21	4.671	313.130	4.664	243.324	H
9	8	4	9"	7'- 4 3/4"	0'- 8"	3'- 8"	0'- 10 3/4"	0'- 7 1/4"	39'- 0"	4'- 9 1/2"	40'- 6"	156	70	154.970	3.909	493.927	40'- 10"	6	40'- 6"	3	27	4.869	333.838	4.824	243.324	L
9	10	4	9"	7'- 4 3/4"	0'- 8"	3'- 8"	0'- 10 3/4"	0'- 7 1/4"	39'- 0"	4'- 9 1/2"	40'- 6"	156	90	162.030	4.152	547.774	40'- 10"	6	40'- 6"	3	33	5.091	354.546	5.010	243.324	P
9	12	4	8"	7'- 4 5/8"	0'- 8 1/4"	3'- 7 3/4"	0'- 11 1/8"	0'- 7 1/2"	39'- 0"	4'- 9 1/4"	40'- 6"	156	110	169.090	4.452	644.574	40'- 10"	6	40'- 6"	3	39	5.288	375.254	5.170	243.324	T
10	4	5	9"	8'- 2 1/4"	0'- 8 5/8"	4'- 1/4"	0'- 11 5/8"	0'- 7 3/4"	43'- 0"	5'- 4 1/4"	44'- 7"	172	30	154.210	3.829	552.180	44'- 10"	6	44'- 6"	3	15	4.728	316.454	4.771	267.356	D
10	6	5	9"	8'- 2"	0'- 8 3/8"	4'- 0"	1'- 0"	0'- 8"	43'- 0"	5'- 4"	44'- 8"	172	50	161.270	4.141	572.843	44'- 10"	6	44'- 6"	3	21	4.922	337.162	4.928	267.356	H
10	8	5	9"	8'- 1 7/8"	0'- 9 1/8"	3'- 11 3/4"	1'- 1/4"	0'- 8 1/4"	43'- 0"	5'- 3 3/4"	44'- 8"	172	70	168.330	4.453	597.077	44'- 10"	6	44'- 6"	3	27	5.116	357.870	5.085	267.356	L
10	10	5	9"	8'- 1 7/8"	0'- 9 1/8"	3'- 11 3/4"	1'- 1/4"	0'- 8 1/4"	43'- 0"	5'- 3 3/4"	44'- 8"	172	90	175.390	4.697	634.551	44'- 10"	6	44'- 6"	3	33	5.339	378.578	5.270	267.356	P
10	12	5	10"	8'- 1 3/4"	0'- 9 3/8"	3'- 11 1/2"	1'- 5/8"	0'- 8 1/2"	43'- 0"	5'- 3 1/2"	44'- 9"	172	110	182.450	5.008	666.435	44'- 10"	6	44'- 6"	3	39	5.533	399.286	5.420	267.356	T
12	6	5	9"	9'- 8 1/8"	0'- 11 1/8"	4'- 7 3/8"	1'- 3/8"	0'- 10 1/4"	51'- 1 1/8"	6'- 4 1/8"	53'- 1"	204	50	187.990	5.447	722.570	52'- 10"	6	52'- 6"	3	21	5.314	385.226	5.346	315.420	H
12	8	5	9"	9'- 8 1/8"	0'- 11 1/8"	4'- 7 3/8"	1'- 3/8"	0'- 10 1/4"	51'- 1 1/8"	6'- 4 1/8"	53'- 1"	204	70	195.050	5.693	746.341	52'- 10"	6	52'- 6"	3	27	5.536	405.934	5.532	315.420	L
12	10	5	9"	9'- 8"	0'- 11 3/8"	4'- 7 1/8"	1'- 3/2"	0'- 10 1/2"	51'- 1 1/8"	6'- 3 3/8"	53'- 2"	204	90	202.110	6.016	786.014	52'- 10"	6	52'- 6"	3	33	5.724	426.642	5.683	315.420	P
12	12	5	9"	9'- 8"	0'- 11 3/8"	4'- 7 1/8"	1'- 3/2"	0'- 10 1/2"	51'- 1 1/8"	6'- 3 3/8"	53'- 2"	204	110	209.170	6.258	852.782	52'- 10"	6	52'- 6"	3	39	5.947	447.350	5.868	315.420	T

STRUCTURE AND BRIDGE DIVISION

QUADRUPLE BOX CULVERTS

10 TO 15 FT. FILLS

VIRGINIA DEPARTMENT OF TRANSPORTATION

1005.11