

SPAN		HGHT		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	HW1 SIZE	HW1 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"	14'- 11 7/8"	1'- 5 7/8"	15'- 9"	60	20	57.160	1.283	152.365	16'- 10"	6	16'- 6"	3	12	2.222	137.876	2.191	99.132	A
3	4	4	12"	2'- 8 7/8"	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	158.355	16'- 10"	6	16'- 6"	3	15	2.333	148.230	2.284	99.132	C
4	3	4	12"	3'- 5 1/2"	0'- 6 1/2"	1'- 9 1/2"	0'- 8 5/8"	0'- 5 3/4"	19'- 0"	1'- 11 1/4"	20'- 2"	76	20	70.520	1.718	171.291	20'- 10"	6	20'- 6"	3	12	2.565	161.908	2.547	123.164	B
4	4	4	12"	3'- 5 5/8"	0'- 6 1/4"	1'- 9 3/4"	0'- 8 3/8"	0'- 5 1/2"	19'- 0"	1'- 11 1/4"	20'- 2"	76	30	74.050	1.810	181.286	20'- 10"	6	20'- 6"	3	15	2.686	172.262	2.650	123.164	D
4	5	4	12"	3'- 5 5/8"	0'- 6 1/4"	1'- 9 3/4"	0'- 8 3/8"	0'- 5 1/2"	19'- 0"	1'- 11 1/4"	20'- 2"	76	40	77.580	1.933	191.726	20'- 10"	6	20'- 6"	3	18	2.798	182.616	2.743	123.164	F
4	6	4	12"	3'- 5 5/8"	0'- 6 1/4"	1'- 9 3/4"	0'- 8 3/8"	0'- 5 1/2"	19'- 0"	1'- 11 1/4"	20'- 2"	76	50	81.110	2.055	213.745	20'- 10"	6	20'- 6"	3	21	2.909	192.970	2.835	123.164	H
5	3	4	11"	4'- 2 1/8"	0'- 8 1/2"	2'- 1/4"	0'- 11 1/2"	0'- 7 3/4"	23'- 0"	2'- 4 1/4"	24'- 7"	92	20	83.880	2.250	210.632	24'- 10"	6	24'- 6"	3	12	2.840	185.940	2.836	147.196	B
5	4	4	11"	4'- 2 1/8"	0'- 8 1/2"	2'- 1/4"	0'- 11 1/2"	0'- 7 3/4"	23'- 0"	2'- 4 1/4"	24'- 7"	92	30	87.410	2.372	221.194	24'- 10"	6	24'- 6"	3	15	2.951	196.294	2.928	147.196	D
5	5	4	11"	4'- 2 1/4"	0'- 8 1/4"	2'- 1/2"	0'- 11 1/8"	0'- 7 1/2"	23'- 0"	2'- 4 1/2"	24'- 6"	92	40	90.940	2.459	231.634	24'- 10"	6	24'- 6"	3	18	3.076	206.648	3.034	147.196	F
5	6	4	11"	4'- 2 1/4"	0'- 8 1/4"	2'- 1/2"	0'- 11 1/8"	0'- 7 1/2"	23'- 0"	2'- 4 1/2"	24'- 6"	92	50	94.470	2.581	250.126	24'- 10"	6	24'- 6"	3	21	3.187	217.002	3.127	147.196	H
5	7	4	11"	4'- 2 1/4"	0'- 8 1/4"	2'- 1/2"	0'- 11 1/8"	0'- 7 1/2"	23'- 0"	2'- 4 1/2"	24'- 6"	92	60	98.000	2.703	271.370	24'- 10"	6	24'- 6"	3	24	3.298	227.356	3.220	147.196	J
6	4	4	9"	4'- 10 3/8"	0'- 10 1/4"	2'- 3 1/4"	1'- 2"	0'- 9 1/2"	27'- 0"	2'- 9 3/4"	29'- 0"	108	30	100.770	2.959	282.488	28'- 10"	6	28'- 6"	3	15	3.193	220.326	3.183	171.228	D
6	5	4	9"	4'- 10 3/8"	0'- 10 1/4"	2'- 3 1/4"	1'- 2"	0'- 9 1/2"	27'- 0"	2'- 9 3/4"	29'- 0"	108	40	104.300	3.082	293.373	28'- 10"	6	28'- 6"	3	18	3.304	230.680	3.276	171.228	F
6	6	4	9"	4'- 10 3/8"	0'- 10 1/4"	2'- 3 1/4"	1'- 2"	0'- 9 1/2"	27'- 0"	2'- 9 3/4"	29'- 0"	108	50	107.830	3.204	304.259	28'- 10"	6	28'- 6"	3	21	3.416	241.034	3.369	171.228	H
6	7	4	9"	4'- 10 3/8"	0'- 10 1/2"	2'- 3"	1'- 2 3/8"	0'- 9 3/4"	27'- 0"	2'- 9 1/2"	29'- 0"	108	60	111.360	3.368	330.456	28'- 10"	6	28'- 6"	3	24	3.511	251.388	3.445	171.228	J
6	8	4	9"	4'- 10 3/8"	0'- 10 1/2"	2'- 3"	1'- 2 3/8"	0'- 9 3/4"	27'- 0"	2'- 9 1/2"	29'- 0"	108	70	114.890	3.490	355.092	28'- 10"	6	28'- 6"	3	27	3.622	261.742	3.538	171.228	L
7	4	4	9"	5'- 7 1/2"	1'- 1/4"	2'- 6 1/8"	1'- 4 3/4"	0'- 11 1/2"	31'- 1/8"	3'- 2 7/8"	33'- 4"	124	30	114.130	3.678	378.183	32'- 10"	6	32'- 6"	3	15	3.391	244.358	3.395	195.260	E
7	6	4	9"	5'- 7 1/2"	1'- 1/4"	2'- 6 1/8"	1'- 4 3/4"	0'- 11 1/2"	31'- 1/8"	3'- 2 7/8"	33'- 4"	124	50	121.190	3.923	400.302	32'- 10"	6	32'- 6"	3	21	3.614	265.066	3.580	195.260	I
7	8	4	9"	5'- 7 1/2"	1'- 1/4"	2'- 6 1/8"	1'- 4 3/4"	0'- 11 1/2"	31'- 1/8"	3'- 2 7/8"	33'- 4"	124	70	128.250	4.167	447.312	32'- 10"	6	32'- 6"	3	27	3.836	285.774	3.766	195.260	M
7	10	4	9"	5'- 8"	1'- 1/4"	2'- 6 1/8"	1'- 4 3/4"	0'- 11 1/2"	31'- 1/8"	3'- 2 7/8"	33'- 5"	124	90	135.310	4.448	503.793	32'- 10"	6	32'- 6"	3	33	4.020	306.482	3.912	195.260	Q
8	4	5	9"	6'- 4"	1'- 2 3/8"	2'- 8 7/8"	1'- 7 3/4"	1'- 1 1/2"	34'- 11 7/8"	3'- 8 1/8"	37'- 9"	140	30	127.490	4.497	461.758	36'- 10"	6	36'- 6"	3	15	3.521	268.390	3.538	219.292	E
8	6	5	8"	6'- 4"	1'- 2 3/8"	2'- 8 7/8"	1'- 7 3/4"	1'- 1 1/2"	34'- 11 7/8"	3'- 8 1/8"	37'- 9"	140	50	134.550	4.739	524.870	36'- 10"	6	36'- 6"	3	21	3.744	289.098	3.723	219.292	I
8	8	5	8"	6'- 4"	1'- 2 3/8"	2'- 8 7/8"	1'- 7 3/4"	1'- 1 1/2"	34'- 11 7/8"	3'- 8 1/8"	37'- 9"	140	70	141.610	4.982	575.907	36'- 10"	6	36'- 6"	3	27	3.966	309.806	3.909	219.292	M
8	10	4	8"	6'- 4 1/2"	1'- 2 1/4"	2'- 8 3/8"	1'- 7 5/8"	1'- 1 1/2"	35'- 1/8"	3'- 8 1/8"	37'- 10"	140	90	148.670	5.267	598.990	36'- 10"	6	36'- 6"	3	33	4.149	330.514	4.054	219.292	Q
9	4	5	9"	7'- 1/2"	1'- 4 5/8"	2'- 11 1/2"	1'- 10 7/8"	1'- 3 3/4"	39'- 0"	4'- 1"	42'- 3"	156	30	140.850	5.471	603.620	40'- 10"	6	40'- 6"	3	15	3.576	292.422	3.606	243.324	E
9	6	5	9"	7'- 1/2"	1'- 4 5/8"	2'- 11 1/2"	1'- 10 7/8"	1'- 3 3/4"	39'- 0"	4'- 1"	42'- 3"	156	50	147.910	5.716	626.994	40'- 10"	6	40'- 6"	3	21	3.799	313.130	3.792	243.324	I
9	8	5	9"	7'- 1/2"	1'- 4 5/8"	2'- 11 1/2"	1'- 10 7/8"	1'- 3 3/4"	39'- 0"	4'- 1"	42'- 3"	156	70	154.970	5.959	683.397	40'- 10"	6	40'- 6"	3	27	4.022	333.838	3.977	243.324	M
9	10	5	9"	7'- 1"	1'- 4 5/8"	2'- 11 1/2"	1'- 10 7/8"	1'- 3 3/4"	39'- 1"	4'- 1"	42'- 4"	156	90	162.030	6.241	753.562	40'- 10"	6	40'- 6"	3	33	4.203	354.546	4.122	243.324	Q
9	12	5	9"	7'- 2 1/2"	1'- 4 5/8"	2'- 11 1/2"	1'- 10 7/8"	1'- 3 3/4"	39'- 4"	4'- 1"	42'- 7"	156	110	169.090	6.632	813.290	40'- 10"	6	40'- 6"	3	39	4.279	375.254	4.159	243.324	U
10	4	6	9"	7'- 8 7/8"	1'- 7 1/4"	3'- 1 3/4"	2'- 2 1/2"	1'- 6 1/4"	43'- 0"	4'- 5 3/4"	46'- 8"	172	30	154.210	6.625	718.131	44'- 10"	6	44'- 6"	3	15	3.566	316.454	3.609	267.356	F
10	6	6	9"	7'- 8 7/8"	1'- 7 1/4"	3'- 1 3/4"	2'- 2 1/2"	1'- 6 1/4"	43'- 0"	4'- 5 3/4"	46'- 8"	172	50	161.270	6.870	741.505	44'- 10"	6	44'- 6"	3	21	3.788	337.162	3.795	267.356	J
10	8	6	9"	7'- 8 7/8"	1'- 7 1/4"	3'- 1 3/4"	2'- 2 1/2"	1'- 6 1/4"	43'- 0"	4'- 5 3/4"	46'- 8"	172	70	168.330	7.113	795.083	44'- 10"	6	44'- 6"	3	27	4.011	357.870	3.980	267.356	N
10	10	6	9"	7'- 9 3/8"	1'- 7 1/4"	3'- 1 3/4"	2'- 2 1/2"	1'- 6 1/4"	43'- 1"	4'- 5 3/4"	46'- 9"	172	90	175.390	7.392	931.190	44'- 10"	6	44'- 6"	3	33	4.192	378.578	4.123	267.356	R
10	12	6	9"	7'- 10 3/8"	1'- 7 1/4"	3'- 1 3/4"	2'- 2 1/2"	1'- 6 1/4"	43'- 4"	4'- 5 3/4"	47'- 0"	172	110	182.450	7.790	934.360	44'- 10"	6	44'- 6"	3	39	4.264	399.286	4.157	267.356	V
12	6	6	8"	9'- 2 1/8"	1'- 11 1/4"	3'- 7 3/8"	2'- 8 1/8"	1'- 10 1/4"	51'- 1/8"	5'- 4 1/8"	55'- 6"	204	50	187.990	9.232	953.483	52'- 10"	6	52'- 6"	3	21	3.684	385.226	3.717	315.420	J
12	8	6	8"	9'- 2 1/8"	1'- 11 1/4"	3'- 7 3/8"	2'- 8 1/8"	1'- 10 1/4"	51'- 1/8"	5'- 4 1/8"	55'- 6"	204	70	195.050	9.476	996.225	52'- 10"	6	52'- 6"	3	27	3.907	405.934	3.902	315.420	N
12	10	6	8"	9'- 2 3/4"	1'- 11"	3'- 7 3/8"	2'- 7 7/8"	1'- 10"	51'- 1 1/8"	5'- 4 3/8"	55'- 7"	204	90	202.110	9.681	1,089.405	52'- 10"	6	52'- 6"	3	33	4.085	426.642	4.043	315.420	R
12	12	6	8"	9'- 4 1/8"	1'- 11 1/4"	3'- 7 3/8"	2'- 8 1/8"	1'- 10 1/4"	51'- 4 1/8"	5'- 4 1/8"	55'- 10"	204	110	209.170	10.161	1,148.626	52'- 10"	6	52'- 6"	3	39	4.151	447.350	4.071	315.420	V

SPECIFICATION REFERENCE

QUADRUPLE BOX CULVERTS
35 TO 40 FT. FILLS
 VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT
 ROAD AND BRIDGE STANDARDS

REVISION DATE	SHEET 2 OF 2
1005.21	