

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 3/4"	0'- 4 3/4"	1'- 6 3/8"	0'- 6 1/4"	0'- 4"	14'- 11 7/8"	1'- 5 5/8"	15'- 10"	60	20	57.160	1.306	152.476	16'- 10"	6	16'- 6"	3	12	2.215	137.876	2.184	99.132	A
3	4	4	12"	2'- 8 3/4"	0'- 4 3/4"	1'- 6 3/8"	0'- 6 1/4"	0'- 4"	14'- 11 7/8"	1'- 5 5/8"	15'- 10"	60	30	60.690	1.429	162.916	16'- 10"	6	16'- 6"	3	15	2.326	148.230	2.277	99.132	C
4	3	4	12"	3'- 5 1/4"	0'- 7"	1'- 9"	0'- 9 3/8"	0'- 6 1/4"	19'- 0"	1'- 10 1/2"	20'- 3"	76	20	70.520	1.777	172.071	20'- 10"	6	20'- 6"	3	12	2.545	161.908	2.527	123.164	B
4	4	4	12"	3'- 5 1/4"	0'- 7"	1'- 9"	0'- 9 3/8"	0'- 6 1/4"	19'- 0"	1'- 10 1/2"	20'- 3"	76	30	74.050	1.900	182.511	20'- 10"	6	20'- 6"	3	15	2.656	172.262	2.620	123.164	D
4	5	4	12"	3'- 5 1/8"	0'- 7 1/4"	1'- 8 3/4"	0'- 9 3/4"	0'- 6 1/2"	19'- 0"	1'- 10 1/4"	20'- 4"	76	40	77.580	2.052	193.062	20'- 10"	6	20'- 6"	3	18	2.757	182.616	2.703	123.164	F
4	6	4	12"	3'- 5 1/8"	0'- 7 1/4"	1'- 8 3/4"	0'- 9 3/4"	0'- 6 1/2"	19'- 0"	1'- 10 1/4"	20'- 4"	76	50	81.110	2.174	215.981	20'- 10"	6	20'- 6"	3	21	2.869	192.970	2.795	123.164	H
5	3	4	10"	4'- 1 7/8"	0'- 9"	1'- 11 3/4"	1'- 1/4"	0'- 8 1/4"	23'- 0"	2'- 3 3/4"	24'- 9"	92	20	83.880	2.321	223.017	24'- 10"	6	24'- 6"	3	12	2.814	185.940	2.809	147.196	B
5	4	4	10"	4'- 1 7/8"	0'- 9"	1'- 11 3/4"	1'- 1/4"	0'- 8 1/4"	23'- 0"	2'- 3 3/4"	24'- 9"	92	30	87.410	2.443	233.724	24'- 10"	6	24'- 6"	3	15	2.925	196.294	2.902	147.196	D
5	5	4	10"	4'- 1 7/8"	0'- 9"	1'- 11 3/4"	1'- 1/4"	0'- 8 1/4"	23'- 0"	2'- 3 3/4"	24'- 9"	92	40	90.940	2.566	244.431	24'- 10"	6	24'- 6"	3	18	3.036	206.648	2.995	147.196	F
5	6	4	10"	4'- 1 7/8"	0'- 9"	1'- 11 3/4"	1'- 1/4"	0'- 8 1/4"	23'- 0"	2'- 3 3/4"	24'- 9"	92	50	94.470	2.689	255.138	24'- 10"	6	24'- 6"	3	21	3.148	217.002	3.088	147.196	H
5	7	4	10"	4'- 1 7/8"	0'- 9"	1'- 11 3/4"	1'- 1/4"	0'- 8 1/4"	23'- 0"	2'- 3 3/4"	24'- 9"	92	60	98.000	2.810	287.246	24'- 10"	6	24'- 6"	3	24	3.259	227.356	3.180	147.196	J
6	4	4	9"	4'- 10 1/8"	0'- 11 3/4"	2'- 1 3/4"	1'- 4 1/8"	0'- 11"	27'- 0"	2'- 8 1/4"	29'- 3"	108	30	100.770	3.210	311.566	28'- 10"	6	28'- 6"	3	15	3.114	220.326	3.105	171.228	E
6	5	4	9"	4'- 10 1/8"	0'- 11 3/4"	2'- 1 3/4"	1'- 4 1/8"	0'- 11"	27'- 0"	2'- 8 1/4"	29'- 3"	108	40	104.300	3.333	322.452	28'- 10"	6	28'- 6"	3	18	3.226	230.680	3.198	171.228	G
6	6	4	9"	4'- 10 3/8"	0'- 11 1/4"	2'- 2 1/4"	1'- 3 3/8"	0'- 10 1/2"	27'- 0"	2'- 8 3/4"	29'- 2"	108	50	107.830	3.371	332.298	28'- 10"	6	28'- 6"	3	21	3.351	241.034	3.304	171.228	H
6	7	4	9"	4'- 10 3/8"	0'- 11 1/4"	2'- 2 1/4"	1'- 3 3/8"	0'- 10 1/2"	27'- 0"	2'- 8 3/4"	29'- 2"	108	60	111.360	3.492	362.212	28'- 10"	6	28'- 6"	3	24	3.462	251.388	3.397	171.228	J
6	8	4	9"	4'- 10 3/8"	0'- 11 1/4"	2'- 2 1/4"	1'- 3 3/8"	0'- 10 1/2"	27'- 0"	2'- 8 3/4"	29'- 2"	108	70	114.890	3.614	385.859	28'- 10"	6	28'- 6"	3	27	3.574	261.742	3.490	171.228	L
7	4	5	9"	5'- 7"	1'- 1 3/8"	2'- 5 1/8"	1'- 6 1/4"	1'- 1/2"	31'- 1/8"	3'- 1 7/8"	33'- 6"	124	30	114.130	3.871	387.079	32'- 10"	6	32'- 6"	3	15	3.314	244.358	3.318	195.260	E
7	6	5	9"	5'- 6 3/8"	1'- 1 5/8"	2'- 4 1/8"	1'- 6 5/8"	1'- 3/4"	31'- 1/8"	3'- 1 5/8"	33'- 7"	124	50	121.190	4.162	440.183	32'- 10"	6	32'- 6"	3	21	3.517	265.066	3.484	195.260	I
7	8	4	9"	5'- 6 3/8"	1'- 1 1/2"	2'- 4 1/8"	1'- 6 5/8"	1'- 3/4"	31'- 1/8"	3'- 1 5/8"	33'- 8"	124	70	128.250	4.407	465.344	32'- 10"	6	32'- 6"	3	27	3.740	285.774	3.669	195.260	M
7	10	4	9"	5'- 7 3/4"	1'- 1 3/4"	2'- 4 5/8"	1'- 6 5/8"	1'- 1"	31'- 2 1/8"	3'- 1 3/8"	33'- 10"	124	90	135.310	4.778	516.944	32'- 10"	6	32'- 6"	3	33	3.865	306.482	3.756	195.260	Q
8	4	5	9"	6'- 3 1/4"	1'- 3 3/8"	2'- 7 3/8"	1'- 9 1/8"	1'- 3"	34'- 11 7/8"	3'- 6 5/8"	38'- 1"	140	30	127.490	4.821	506.214	36'- 10"	6	36'- 6"	3	15	3.387	268.390	3.404	219.292	E
8	6	5	9"	6'- 3 1/4"	1'- 3 3/8"	2'- 7 3/8"	1'- 9 1/8"	1'- 3"	34'- 11 7/8"	3'- 6 5/8"	38'- 1"	140	50	134.550	5.066	530.661	36'- 10"	6	36'- 6"	3	21	3.609	289.098	3.589	219.292	I
8	8	5	8"	6'- 3 1/4"	1'- 3 3/8"	2'- 7 3/8"	1'- 9 1/8"	1'- 3"	34'- 11 7/8"	3'- 6 5/8"	38'- 1"	140	70	141.610	5.309	584.209	36'- 10"	6	36'- 6"	3	27	3.832	309.806	3.775	219.292	M
8	10	5	8"	6'- 4 1/4"	1'- 3 3/8"	2'- 7 3/8"	1'- 9 1/8"	1'- 3"	35'- 1 7/8"	3'- 6 5/8"	38'- 3"	140	90	148.670	5.632	649.467	36'- 10"	6	36'- 6"	3	33	3.974	330.514	3.878	219.292	Q
9	4	6	9"	6'- 11 3/4"	1'- 6 1/4"	2'- 10"	2'- 1 1/8"	1'- 5 1/4"	39'- 0"	3'- 11 1/2"	42'- 6"	156	30	140.850	5.831	658.465	40'- 10"	6	40'- 6"	3	15	3.442	292.422	3.472	243.324	F
9	6	5	9"	6'- 11 3/4"	1'- 6 1/8"	2'- 10"	2'- 1"	1'- 5 1/4"	39'- 0"	3'- 11 1/2"	42'- 6"	156	50	147.910	6.080	631.585	40'- 10"	6	40'- 6"	3	21	3.665	313.130	3.658	243.324	J
9	8	5	9"	6'- 11 3/4"	1'- 6 1/8"	2'- 10"	2'- 1"	1'- 5 1/4"	39'- 0"	3'- 11 1/2"	42'- 6"	156	70	154.970	6.322	691.631	40'- 10"	6	40'- 6"	3	27	3.887	333.838	3.843	243.324	N
9	10	5	9"	7'- 3/4"	1'- 6 1/8"	2'- 10"	2'- 1"	1'- 5 1/4"	39'- 2"	3'- 11 1/2"	42'- 8"	156	90	162.030	6.648	760.570	40'- 10"	6	40'- 6"	3	33	4.027	354.546	3.945	243.324	R
9	12	5	9"	7'- 2 1/4"	1'- 6 1/8"	2'- 10"	2'- 1"	1'- 5 1/4"	39'- 5"	3'- 11 1/2"	42'- 11"	156	110	169.090	7.047	821.986	40'- 10"	6	40'- 6"	3	39	4.094	375.254	3.973	243.324	V
10	4	6	9"	7'- 8 3/8"	1'- 8 1/4"	3'- 3 3/4"	2'- 4"	1'- 7 1/4"	43'- 0"	4'- 4 3/4"	46'- 11"	172	30	154.210	6.892	722.373	44'- 10"	6	44'- 6"	3	15	3.452	316.454	3.495	267.356	F
10	6	6	9"	7'- 8 3/8"	1'- 8 1/4"	3'- 3 3/4"	2'- 4"	1'- 7 1/4"	43'- 0"	4'- 4 3/4"	46'- 11"	172	50	161.270	7.137	746.388	44'- 10"	6	44'- 6"	3	21	3.674	337.162	3.681	267.356	J
10	8	6	9"	7'- 8 3/8"	1'- 8 1/4"	3'- 3 3/4"	2'- 4"	1'- 7 1/4"	43'- 0"	4'- 4 3/4"	46'- 11"	172	70	168.330	7.380	801.673	44'- 10"	6	44'- 6"	3	27	3.897	357.870	3.866	267.356	N
10	10	6	9"	7'- 9 3/8"	1'- 8 1/4"	3'- 3 3/4"	2'- 4"	1'- 7 1/4"	43'- 2"	4'- 4 3/4"	47'- 1"	172	90	175.390	7.708	867.540	44'- 10"	6	44'- 6"	3	33	4.034	378.578	3.966	267.356	R
10	12	6	9"	7'- 10 7/8"	1'- 8 1/4"	3'- 3 3/4"	2'- 4"	1'- 7 1/4"	43'- 5"	4'- 4 3/4"	47'- 4"	172	110	182.450	8.109	941.583	44'- 10"	6	44'- 6"	3	39	4.099	399.286	3.991	267.356	V
12	6	6	8"	9'- 1 1/4"	2'- 1"	3'- 5 5/8"	2'- 10 5/8"	2'- 0"	51'- 1/8"	5'- 2 3/8"	55'- 11"	204	50	187.990	9.780	1,047.641	52'- 10"	6	52'- 6"	3	21	3.460	385.226	3.493	315.420	K
12	8	6	8"	9'- 1 1/4"	2'- 1"	3'- 5 5/8"	2'- 10 5/8"	2'- 0"	51'- 1/8"	5'- 2 3/8"	55'- 11"	204	70	195.050	10.023	1,094.554	52'- 10"	6	52'- 6"	3	27	3.682	405.934	3.678	315.420	O
12	10	6	8"	9'- 2 1/2"	2'- 1"	3'- 5 5/8"	2'- 10 5/8"	2'- 0"	51'- 2 3/8"	5'- 2 3/8"	56'- 1"	204	90	202.110	10.377	1,184.256	52'- 10"	6	52'- 6"	3	33	3.793	426.642	3.750	315.420	S
12	12	6	8"	9'- 3 3/4"	2'- 1"	3'- 5 5/8"	2'- 10 5/8"	2'- 0"	51'- 5 3/8"	5'- 2 3/8"	56'- 4"	204	110	209.170	10.769	1,173.047	52'- 10"	6	52'- 6"	3	39	3.872	447.350	3.791	315.420	W

SPECIFICATION REFERENCE

QUADRUPLE BOX CULVERTS
 40 TO 45 FT. FILLS
 VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT
 ROAD AND BRIDGE STANDARDS

REVISION DATE	SHEET 2 OF 2
1005.23	