

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	1.284	141.899	16'- 10"	6	16'- 6"	3	12	2.222	137.876	2.191	99.132	A
3	4	4	12"	2'- 8 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	152.339	16'- 10"	6	16'- 6"	3	15	2.333	148.230	2.284	99.132	C
4	3	4	12"	3'- 5 3/8"	0'- 5 3/4"	1'- 10 1/4"	0'- 7 7/8"	0'- 5"	19'- 0"	1'- 11 3/4"	20'- 0"	76	20	70.520	1.628	170.178	20'- 10"	6	20'- 6"	3	12	2.595	161.908	2.577	123.164	B
4	4	4	12"	3'- 5 3/8"	0'- 5 3/4"	1'- 10 1/4"	0'- 7 7/8"	0'- 5"	19'- 0"	1'- 11 3/4"	20'- 0"	76	30	74.050	1.751	180.618	20'- 10"	6	20'- 6"	3	15	2.706	172.262	2.670	123.164	D
4	5	4	12"	3'- 5 3/8"	0'- 5 3/4"	1'- 10 1/4"	0'- 7 7/8"	0'- 5"	19'- 0"	1'- 11 3/4"	20'- 0"	76	40	77.580	1.873	191.058	20'- 10"	6	20'- 6"	3	18	2.818	182.616	2.763	123.164	F
4	6	4	12"	3'- 5 3/8"	0'- 5 3/4"	1'- 10 1/4"	0'- 7 7/8"	0'- 5"	19'- 0"	1'- 11 3/4"	20'- 0"	76	50	81.110	1.996	208.141	20'- 10"	6	20'- 6"	3	21	2.929	192.970	2.856	123.164	H
5	3	4	11"	4'- 2 3/4"	0'- 7 1/4"	2'- 1 1/2"	0'- 9 3/4"	0'- 6 1/2"	23'- 0"	2'- 5 1/2"	24'- 4"	92	20	83.880	2.070	208.689	24'- 10"	6	24'- 6"	3	12	2.905	185.940	2.901	147.196	B
5	4	4	11"	4'- 2 3/4"	0'- 7 1/4"	2'- 1 1/2"	0'- 9 3/4"	0'- 6 1/2"	23'- 0"	2'- 5 1/2"	24'- 4"	92	30	87.410	2.192	219.251	24'- 10"	6	24'- 6"	3	15	3.017	196.294	2.994	147.196	D
5	5	4	11"	4'- 2 3/8"	0'- 7 1/2"	2'- 1 1/4"	0'- 10 1/8"	0'- 6 3/4"	23'- 0"	2'- 5 1/4"	24'- 5"	92	40	90.940	2.351	230.379	24'- 10"	6	24'- 6"	3	18	3.115	206.648	3.073	147.196	F
5	6	4	11"	4'- 2 3/8"	0'- 7 1/2"	2'- 1 1/4"	0'- 10 1/8"	0'- 6 3/4"	23'- 0"	2'- 5 1/4"	24'- 5"	92	50	94.470	2.473	248.871	24'- 10"	6	24'- 6"	3	21	3.226	217.002	3.166	147.196	H
5	7	4	11"	4'- 2 3/8"	0'- 7 1/2"	2'- 1 1/4"	0'- 10 1/8"	0'- 6 3/4"	23'- 0"	2'- 5 1/4"	24'- 5"	92	60	98.000	2.595	266.970	24'- 10"	6	24'- 6"	3	24	3.338	227.356	3.259	147.196	J
6	4	4	9"	4'- 11 1/4"	0'- 9 1/2"	2'- 4"	1'- 7/8"	0'- 8 3/4"	27'- 0"	2'- 10 1/2"	28'- 9"	108	30	100.770	2.833	280.855	28'- 10"	6	28'- 6"	3	15	3.242	220.326	3.232	171.228	D
6	5	4	9"	4'- 11 1/4"	0'- 9 1/2"	2'- 4"	1'- 7/8"	0'- 8 3/4"	27'- 0"	2'- 10 1/2"	28'- 9"	108	40	104.300	2.955	291.740	28'- 10"	6	28'- 6"	3	18	3.353	230.680	3.325	171.228	F
6	6	4	9"	4'- 11 1/4"	0'- 9 1/2"	2'- 4"	1'- 7/8"	0'- 8 3/4"	27'- 0"	2'- 10 1/2"	28'- 9"	108	50	107.830	3.078	302.626	28'- 10"	6	28'- 6"	3	21	3.464	241.034	3.417	171.228	H
6	7	4	9"	4'- 11 1/4"	0'- 9 1/2"	2'- 4"	1'- 7/8"	0'- 8 3/4"	27'- 0"	2'- 10 1/2"	28'- 9"	108	60	111.360	3.200	325.558	28'- 10"	6	28'- 6"	3	24	3.576	251.388	3.510	171.228	J
6	8	4	9"	4'- 11 1/4"	0'- 9 1/2"	2'- 4"	1'- 7/8"	0'- 8 3/4"	27'- 0"	2'- 10 1/2"	28'- 9"	108	70	114.890	3.321	350.238	28'- 10"	6	28'- 6"	3	27	3.687	261.742	3.603	171.228	L
7	4	4	9"	5'- 8 7/8"	0'- 11"	2'- 7 3/8"	1'- 3"	0'- 10 1/4"	31'- 1/8"	3'- 4 1/8"	33'- 1"	124	30	114.130	3.437	375.461	32'- 10"	6	32'- 6"	3	15	3.469	244.358	3.473	195.260	D
7	6	4	9"	5'- 8 7/8"	0'- 11"	2'- 7 3/8"	1'- 3"	0'- 10 1/4"	31'- 1/8"	3'- 4 1/8"	33'- 1"	124	50	121.190	3.682	397.232	32'- 10"	6	32'- 6"	3	21	3.692	265.066	3.658	195.260	H
7	8	4	9"	5'- 8 7/8"	0'- 11"	2'- 7 3/8"	1'- 3"	0'- 10 1/4"	31'- 1/8"	3'- 4 1/8"	33'- 1"	124	70	128.250	3.926	439.821	32'- 10"	6	32'- 6"	3	27	3.914	285.774	3.843	195.260	L
7	10	4	9"	5'- 8"	0'- 11 1/4"	2'- 7 7/8"	1'- 3 3/8"	0'- 10 1/2"	31'- 1/8"	3'- 3 3/8"	33'- 2"	124	90	135.310	4.218	471.325	32'- 10"	6	32'- 6"	3	33	4.118	306.482	4.010	195.260	P
8	4	4	8"	6'- 4 5/8"	1'- 1"	2'- 10 1/8"	1'- 5 7/8"	1'- 1/4"	34'- 11 7/8"	3'- 9 3/8"	37'- 6"	140	30	127.490	4.225	454.663	36'- 10"	6	36'- 6"	3	15	3.633	268.390	3.650	219.292	E
8	6	4	8"	6'- 4 5/8"	1'- 1"	2'- 10 1/8"	1'- 5 7/8"	1'- 1/4"	34'- 11 7/8"	3'- 9 3/8"	37'- 6"	140	50	134.550	4.470	477.228	36'- 10"	6	36'- 6"	3	21	3.856	289.098	3.835	219.292	I
8	8	4	8"	6'- 4 5/8"	1'- 1"	2'- 10 1/8"	1'- 5 7/8"	1'- 1/4"	34'- 11 7/8"	3'- 9 3/8"	37'- 6"	140	70	141.610	4.713	524.245	36'- 10"	6	36'- 6"	3	27	4.078	309.806	4.021	219.292	M
8	10	4	8"	6'- 4 5/8"	1'- 1"	2'- 10 1/8"	1'- 5 7/8"	1'- 1/4"	34'- 11 7/8"	3'- 9 3/8"	37'- 6"	140	90	148.670	4.956	587.836	36'- 10"	6	36'- 6"	3	33	4.301	330.514	4.206	219.292	Q
9	4	5	9"	7'- 1 1/4"	1'- 3 3/8"	3'- 1"	1'- 8 3/4"	1'- 2 1/4"	39'- 0"	4'- 2 1/2"	41'- 11"	156	30	140.850	5.111	551.578	40'- 10"	6	40'- 6"	3	15	3.729	292.422	3.759	243.324	E
9	6	5	9"	7'- 1 1/4"	1'- 3 3/8"	3'- 1"	1'- 8 3/4"	1'- 2 1/4"	39'- 0"	4'- 2 1/2"	41'- 11"	156	50	147.910	5.356	574.493	40'- 10"	6	40'- 6"	3	21	3.952	313.130	3.945	243.324	I
9	8	5	9"	7'- 1 1/4"	1'- 3 3/8"	3'- 1"	1'- 8 3/4"	1'- 2 1/4"	39'- 0"	4'- 2 1/2"	41'- 11"	156	70	154.970	5.599	621.543	40'- 10"	6	40'- 6"	3	27	4.174	333.838	4.130	243.324	M
9	10	5	9"	7'- 1 1/4"	1'- 3 3/8"	3'- 1"	1'- 8 3/4"	1'- 2 1/4"	39'- 0"	4'- 2 1/2"	41'- 11"	156	90	162.030	5.840	695.187	40'- 10"	6	40'- 6"	3	33	4.397	354.546	4.315	243.324	Q
9	12	5	9"	7'- 2 3/8"	1'- 3 3/8"	3'- 3/4"	1'- 9 1/8"	1'- 2 1/2"	39'- 2 1/2"	4'- 2 1/4"	42'- 2"	156	110	169.090	6.259	772.485	40'- 10"	6	40'- 6"	3	39	4.478	375.254	4.359	243.324	U
10	4	6	9"	7'- 9 7/8"	1'- 5 1/4"	3'- 3 3/4"	1'- 11 3/4"	1'- 4 1/4"	43'- 0"	4'- 7 3/4"	46'- 4"	172	30	154.210	6.090	714.154	44'- 10"	6	44'- 6"	3	15	3.776	316.454	3.819	267.356	E
10	6	6	9"	7'- 9 7/8"	1'- 5 1/4"	3'- 3 3/4"	1'- 11 3/4"	1'- 4 1/4"	43'- 0"	4'- 7 3/4"	46'- 4"	172	50	161.270	6.335	737.527	44'- 10"	6	44'- 6"	3	21	3.998	337.162	4.005	267.356	I
10	8	6	9"	7'- 9 7/8"	1'- 5 1/4"	3'- 3 3/4"	1'- 11 3/4"	1'- 4 1/4"	43'- 0"	4'- 7 3/4"	46'- 4"	172	70	168.330	6.578	787.134	44'- 10"	6	44'- 6"	3	27	4.221	357.870	4.190	267.356	M
10	10	6	9"	7'- 9 7/8"	1'- 5 1/4"	3'- 3 3/4"	1'- 11 3/4"	1'- 4 1/4"	43'- 0"	4'- 7 3/4"	46'- 4"	172	90	175.390	6.820	853.735	44'- 10"	6	44'- 6"	3	33	4.444	378.578	4.375	267.356	Q
10	12	6	9"	7'- 11 1/8"	1'- 5 1/4"	3'- 3 3/4"	1'- 11 3/4"	1'- 4 1/4"	43'- 2 1/2"	4'- 7 3/4"	46'- 6"	172	110	182.450	7.181	924.455	44'- 10"	6	44'- 6"	3	39	4.548	399.286	4.442	267.356	U
12	6	6	8"	9'- 3 3/4"	1'- 9"	3'- 9 5/8"	2'- 5"	1'- 8"	51'- 1/8"	5'- 6 3/8"	55'- 1"	204	50	187.990	8.520	941.764	52'- 10"	6	52'- 6"	3	21	3.997	385.226	4.030	315.420	J
12	8	6	8"	9'- 3 3/4"	1'- 9"	3'- 9 5/8"	2'- 5"	1'- 8"	51'- 1/8"	5'- 6 3/8"	55'- 1"	204	70	195.050	8.763	997.846	52'- 10"	6	52'- 6"	3	27	4.219	405.934	4.215	315.420	N
12	10	6	8"	9'- 3 3/4"	1'- 9"	3'- 9 5/8"	2'- 5"	1'- 8"	51'- 1/8"	5'- 6 3/8"	55'- 1"	204	90	202.110	9.005	1,067.631	52'- 10"	6	52'- 6"	3	33	4.442	426.642	4.400	315.420	R
12	12	6	8"	9'- 4 1/2"	1'- 9"	3'- 9 5/8"	2'- 5"	1'- 8"	51'- 2 3/8"	5'- 6 3/8"	55'- 4"	204	110	209.170	9.371	1,129.835	52'- 10"	6	52'- 6"	3	39	4.542	447.350	4.462	315.420	V

SPECIFICATION REFERENCE

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

VDOT
 ROAD AND BRIDGE STANDARDS

REVISION DATE	SHEET 2 OF 2
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