

FOR TYPICAL SECTION, NOTES AND OTHER DETAILS, REFER TO STANDARD BCQ-DT.

BCQ-40

SPAN		HIGHT		REINFORCING STEEL											QUAN./LF		HEADWALLS								WINGWALL			
(FT.)	(FT.)	SIZE	SPACING C-C	BTI											REINFORCING STEEL (LBS./LONG. JT)	CONCRETE CLASS A4 (CY/LF)	REINFORCING STEEL (LBS./LF)	G		HWI		NO. HW2 BARS	NO. HW3 BARS	INLET CONCRETE CL. A4 (CY)		INLET REINFORCING STEEL (LBS)	OUTLET CONCRETE CL. A4 (CY)	OUTLET REINFORCING STEEL (LBS)
				a	b	c	d	e	f	g	LENGTH	NO. BL1 #4 BARS	NO. BL2 #3 BARS	HEADWALL LENGTH				SIZE	LENGTH									
3	3	4	12"	2'- 7"	0'- 4"	1'- 10"	0'- 5 1/8"	0'- 3 1/4"	15'- 0"	1'- 3"	15'- 7"	60	20	57.160	1.283	151.587	16'-10"	6	16'- 6"	3	12	2.222	137.876	2.191	99.132	A		
3	4	4	12"	2'- 7"	0'- 4"	1'- 10"	0'- 5 1/8"	0'- 3 1/4"	15'- 0"	1'- 3"	15'- 7"	60	30	60.690	1.406	158.132	16'-10"	6	16'- 6"	3	15	2.333	148.230	2.284	99.132	C		
4	3	4	12"	3'- 3"	0'- 6"	2'- 3"	0'- 8"	0'- 5 1/4"	19'- 0"	1'- 6"	20'- 0"	76	20	70.520	1.717	170.567	20'-10"	6	20'- 6"	3	12	2.565	161.908	2.547	123.164	B		
4	4	4	12"	3'- 3"	0'- 5 3/4"	2'- 3"	0'- 7 7/8"	0'- 5"	19'- 0"	1'- 6"	20'- 0"	76	30	74.050	1.810	180.660	20'-10"	6	20'- 6"	3	15	2.686	172.262	2.650	123.164	D		
4	5	4	12"	3'- 3"	0'- 5 3/4"	2'- 3"	0'- 7 7/8"	0'- 5"	19'- 0"	1'- 6"	20'- 0"	76	40	77.580	1.933	191.100	20'-10"	6	20'- 6"	3	18	2.798	182.616	2.743	123.164	F		
4	6	4	12"	3'- 3"	0'- 5 3/4"	2'- 3"	0'- 7 7/8"	0'- 5"	19'- 0"	1'- 6"	20'- 0"	76	50	81.110	2.054	221.508	20'-10"	6	20'- 6"	3	21	2.909	192.970	2.835	123.164	H		
5	3	4	11"	3'- 10"	0'- 8"	2'- 8"	0'- 10 7/8"	0'- 7 1/4"	23'- 0"	1'- 9"	24'- 5"	92	20	83.880	2.249	209.714	24'-10"	6	24'- 6"	3	12	2.840	185.940	2.836	147.196	B		
5	4	4	11"	3'- 10"	0'- 8"	2'- 8"	0'- 10 7/8"	0'- 7 1/4"	23'- 0"	1'- 9"	24'- 5"	92	30	87.410	2.372	220.276	24'-10"	6	24'- 6"	3	15	2.951	196.294	2.928	147.196	D		
5	5	4	11"	3'- 10"	0'- 7 3/4"	2'- 8"	0'- 10 1/2"	0'- 7"	23'- 0"	1'- 9"	24'- 5"	92	40	90.940	2.459	230.479	24'-10"	6	24'- 6"	3	18	3.076	206.648	3.034	147.196	F		
5	6	4	11"	3'- 10"	0'- 7 3/4"	2'- 8"	0'- 10 1/2"	0'- 7"	23'- 0"	1'- 9"	24'- 5"	92	50	94.470	2.580	256.318	24'-10"	6	24'- 6"	3	21	3.187	217.002	3.127	147.196	H		
5	7	4	11"	3'- 10"	0'- 7 3/4"	2'- 8"	0'- 10 1/2"	0'- 7"	23'- 0"	1'- 9"	24'- 5"	92	60	98.000	2.701	283.434	24'-10"	6	24'- 6"	3	24	3.298	227.356	3.220	147.196	J		
6	4	4	9"	4'- 6"	0'- 10"	3'- 0"	1'- 1 5/8"	0'- 9 1/4"	27'- 0"	2'- 1"	28'- 10"	108	30	100.770	3.001	281.508	28'-10"	6	28'- 6"	3	15	3.193	220.326	3.183	171.228	D		
6	5	4	9"	4'- 6"	0'- 10"	3'- 0"	1'- 1 5/8"	0'- 9 1/4"	27'- 0"	2'- 1"	28'- 10"	108	40	104.300	3.124	292.393	28'-10"	6	28'- 6"	3	18	3.304	230.680	3.276	171.228	F		
6	6	4	9"	4'- 6"	0'- 10"	3'- 0"	1'- 1 5/8"	0'- 9 1/4"	27'- 0"	2'- 1"	28'- 10"	108	50	107.830	3.246	309.279	28'-10"	6	28'- 6"	3	21	3.416	241.034	3.369	171.228	H		
6	7	4	9"	4'- 6"	0'- 10"	3'- 0"	1'- 1 5/8"	0'- 9 1/4"	27'- 0"	2'- 1"	28'- 10"	108	60	111.360	3.367	341.882	28'-10"	6	28'- 6"	3	24	3.511	251.388	3.445	171.228	J		
6	8	4	9"	4'- 7"	0'- 10"	3'- 0"	1'- 1 5/8"	0'- 9 1/4"	27'- 1"	2'- 1"	28'- 11"	108	70	114.890	3.520	370.070	28'-10"	6	28'- 6"	3	27	3.622	261.742	3.538	171.228	L		
7	4	5	9"	5'- 1"	1'- 1/2"	3'- 5"	1'- 5/8"	0'- 11 5/8"	31'- 0"	2'- 3"	33'- 4"	124	30	114.130	3.820	414.276	32'-10"	6	32'- 6"	3	15	3.391	244.358	3.395	195.260	E		
7	6	5	9"	5'- 2"	1'- 0"	3'- 5"	1'- 4 3/8"	0'- 11 1/8"	31'- 0"	2'- 4"	33'- 3"	124	50	121.190	3.968	441.749	32'-10"	6	32'- 6"	3	21	3.614	265.066	3.580	195.260	I		
7	8	5	9"	5'- 2"	0'- 11 3/4"	3'- 5"	1'- 4"	0'- 10 7/8"	31'- 0"	2'- 5"	33'- 2"	124	70	128.250	4.162	500.982	32'-10"	6	32'- 6"	3	27	3.836	285.774	3.766	195.260	M		
7	10	5	9"	5'- 5"	0'- 11 3/4"	3'- 5"	1'- 4"	0'- 10 7/8"	31'- 5"	2'- 5"	33'- 7"	124	90	135.310	4.599	567.669	32'-10"	6	32'- 6"	3	33	4.020	306.482	3.912	195.260	Q		
8	4	5	9"	5'- 9"	1'- 2 1/2"	3'- 10"	1'- 7 7/8"	1'- 1 5/8"	35'- 0"	2'- 6"	37'- 9"	140	30	127.490	4.660	464.611	36'-10"	6	36'- 6"	3	15	3.521	268.390	3.538	219.292	E		
8	6	5	8"	5'- 9"	1'- 2"	3'- 10"	1'- 7 1/8"	1'- 1 1/8"	35'- 0"	2'- 7"	37'- 8"	140	50	134.550	4.792	533.473	36'-10"	6	36'- 6"	3	21	3.744	289.098	3.723	219.292	I		
8	8	5	8"	5'- 10"	1'- 1 3/4"	3'- 10"	1'- 6 7/8"	1'- 7/8"	35'- 0"	2'- 8"	37'- 7"	140	70	141.610	4.980	597.180	36'-10"	6	36'- 6"	3	27	3.966	309.806	3.909	219.292	M		
8	10	5	8"	6'- 0"	1'- 2"	3'- 10"	1'- 7 1/8"	1'- 1 1/8"	35'- 4"	2'- 7"	38'- 1"	140	90	148.670	5.477	658.739	36'-10"	6	36'- 6"	3	33	4.149	330.514	4.054	219.292	Q		
9	4	6	9"	6'- 5"	1'- 4 1/2"	4'- 3"	1'- 10 5/8"	1'- 3 1/2"	39'- 0"	2'- 10"	42'- 1"	156	30	140.850	5.587	661.124	40'-10"	6	40'- 6"	3	15	3.576	292.422	3.606	243.324	E		
9	6	6	9"	6'- 5"	1'- 4 1/2"	4'- 3"	1'- 10 5/8"	1'- 3 1/2"	39'- 0"	2'- 10"	42'- 1"	156	50	147.910	5.832	691.310	40'-10"	6	40'- 6"	3	21	3.799	313.130	3.792	243.324	I		
9	8	6	9"	6'- 5"	1'- 4"	4'- 3"	1'- 9 3/8"	1'- 3"	39'- 0"	2'- 11"	42'- 0"	156	70	154.970	5.952	756.272	40'-10"	6	40'- 6"	3	27	4.022	333.838	3.977	243.324	M		
9	10	6	9"	6'- 8"	1'- 4"	4'- 3"	1'- 9 3/8"	1'- 3"	39'- 4"	2'- 11"	42'- 5"	156	90	162.030	6.400	816.084	40'-10"	6	40'- 6"	3	33	4.203	354.546	4.122	243.324	Q		
9	12	6	9"	6'- 10"	1'- 4"	4'- 3"	1'- 9 3/8"	1'- 3"	39'- 9"	2'- 11"	42'- 10"	156	110	169.090	6.907	919.136	40'-10"	6	40'- 6"	3	39	4.279	375.254	4.159	243.324	U		
10	4	6	9"	7'- 0"	1'- 6 1/2"	4'- 8"	2'- 1 3/8"	1'- 5 1/2"	43'- 0"	3'- 1"	46'- 6"	172	30	154.210	6.623	724.174	44'-10"	6	44'- 6"	3	15	3.566	316.454	3.609	267.356	F		
10	6	6	9"	7'- 0"	1'- 6 1/2"	4'- 8"	2'- 1 3/8"	1'- 5 1/2"	43'- 0"	3'- 1"	46'- 6"	172	50	161.270	6.868	754.611	44'-10"	6	44'- 6"	3	21	3.788	337.162	3.795	267.356	J		
10	8	6	9"	7'- 0"	1'- 6 1/2"	4'- 8"	2'- 1 3/8"	1'- 5 1/2"	43'- 0"	3'- 1"	46'- 6"	172	70	168.330	7.110	818.277	44'-10"	6	44'- 6"	3	27	4.011	357.870	3.980	267.356	N		
10	10	7	9"	7'- 2"	1'- 6 1/2"	4'- 8"	2'- 1 1/4"	1'- 5 1/4"	43'- 3"	3'- 1"	46'- 10"	172	90	175.390	7.509	1041.296	44'-10"	6	44'- 6"	3	33	4.192	378.578	4.123	267.356	R		
10	12	6	9"	7'- 5"	1'- 6 1/2"	4'- 8"	2'- 1 3/8"	1'- 5 1/2"	43'- 9"	3'- 1"	47'- 3"	172	110	182.450	8.030	960.092	44'-10"	6	44'- 6"	3	39	4.264	399.286	4.157	267.356	V		
12	6	6	8"	8'- 3"	1'- 11"	5'- 5"	2'- 7 3/4"	1'- 10"	51'- 0"	3'- 7"	55'- 5"	204	50	187.990	9.388	971.858	52'-10"	6	52'- 6"	3	21	3.684	385.226	3.717	315.420	J		
12	8	6	8"	8'- 3"	1'- 11"	5'- 5"	2'- 7 3/4"	1'- 10"	51'- 0"	3'- 7"	55'- 5"	204	70	195.050	9.631	1026.313	52'-10"	6	52'- 6"	3	27	3.907	405.934	3.902	315.420	N		
12	10	6	8"	8'- 4"	1'- 11"	5'- 5"	2'- 7 3/4"	1'- 10"	51'- 1"	3'- 7"	55'- 7"	204	90	202.110	9.959	1128.892	52'-10"	6	52'- 6"	3	33	4.085	426.642	4.043	315.420	R		
12	12	6	8"	8'- 7"	1'- 11"	5'- 5"	2'- 7 3/4"	1'- 10"	51'- 7"	3'- 7"	56'- 1"	204	110	209.170	10.521	1174.588	52'-10"	6	52'- 6"	3	39	4.151	447.350	4.071	315.420	V		

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

SPECIFICATION REFERENCE	QUADRUPLE BOX CULVERTS		 ROAD AND BRIDGE STANDARDS	
	30 TO 40 FT. FILLS			REVISION DATE
	VIRGINIA DEPARTMENT OF TRANSPORTATION			SHEET 2 OF 2
			07/11	
			1005.16	