

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

BCQ-40

SPAN		HGT		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	<h2>QUADRUPLE BOX CULVERTS</h2> <h3>30 TO 40 FT. FILLS</h3> <p>VIRGINIA DEPARTMENT OF TRANSPORTATION</p>	 ROAD AND BRIDGE STANDARDS