

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

BCD-30

SPAN		HGHT		REINFORCING STEEL											QUAN./LF		HEADWALLS							WINGWALL				
(FT.)	(FT.)	SIZE	SPACING C-C	BT I								LENGTH	NO. BL1 #4 BARS	NO. BL2 #3 BARS	REINFORCING STEEL (LBS./LONG. JT)	CONCRETE CLASS A4 (CY/LF)	REINFORCING STEEL (LBS./LF)	G		HW I		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	HEADWALL LENGTH							SIZE	LENGTH									
3	3	4	12"	2'- 7"	0'- 4"	1'- 10"	0'- 5 5/8"	0'- 3 3/4"	7'- 8"	-----	7'-10"	32	12	30.950	0.695	78.691	9'- 6"	6	9'- 2"	6	9'- 2"	1	4	1.433	67.988	1.425	55.073	A
3	4	4	12"	2'- 7"	0'- 4"	1'- 10"	0'- 5 5/8"	0'- 3 3/4"	7'- 8"	-----	7'-10"	32	18	33.065	0.768	84.955	9'- 6"	6	9'- 2"	6	9'- 2"	1	5	1.531	71.439	1.517	55.073	C
4	3	4	12"	3'- 4"	0'- 4 1/2"	2'- 3"	0'- 5 5/8"	0'- 3 3/4"	9'- 8"	-----	9'-11"	40	12	37.636	0.823	92.431	11'- 6"	6	11'- 2"	6	11'- 2"	1	4	1.629	80.004	1.628	67.089	A
4	4	4	12"	3'- 4"	0'- 4 1/2"	2'- 3"	0'- 5 5/8"	0'- 3 3/4"	9'- 8"	-----	9'-11"	40	18	39.745	0.897	98.695	11'- 6"	6	11'- 2"	6	11'- 2"	1	5	1.728	83.455	1.721	67.089	C
4	5	4	12"	3'- 4"	0'- 4 3/4"	2'- 3"	0'- 6 1/4"	0'- 4"	9'- 8"	-----	9'-11"	40	24	41.860	0.986	105.149	11'- 6"	6	11'- 2"	6	11'- 2"	1	6	1.824	86.907	1.811	67.089	E
4	6	4	12"	3'- 4"	0'- 4 3/4"	2'- 3"	0'- 6 1/4"	0'- 4"	9'- 8"	-----	9'-11"	40	30	43.975	1.059	116.756	11'- 6"	6	11'- 2"	6	11'- 2"	1	7	1.923	90.358	1.903	67.089	G
5	3	4	12"	4'- 0"	0'- 6 1/4"	2'- 8"	0'- 8 3/8"	0'- 5 1/2"	11'- 8"	-----	12'- 0"	48	12	44.316	1.058	87.080	13'- 6"	6	13'- 2"	6	13'- 2"	1	4	1.816	92.020	1.822	79.105	B
5	4	4	12"	4'- 0"	0'- 6 1/4"	2'- 8"	0'- 8 3/8"	0'- 5 1/2"	11'- 8"	-----	12'- 0"	48	18	46.425	1.132	93.344	13'- 6"	6	13'- 2"	6	13'- 2"	1	5	1.915	95.471	1.915	79.105	D
5	5	4	12"	4'- 0"	0'- 6 1/4"	2'- 8"	0'- 8 3/8"	0'- 5 1/2"	11'- 8"	-----	12'- 0"	48	24	48.540	1.205	99.608	13'- 6"	6	13'- 2"	6	13'- 2"	1	6	2.014	98.923	2.007	79.105	F
5	6	4	12"	4'- 0"	0'- 6 1/4"	2'- 8"	0'- 8 3/8"	0'- 5 1/2"	11'- 8"	-----	12'- 0"	48	30	50.655	1.278	119.790	13'- 6"	6	13'- 2"	6	13'- 2"	1	7	2.113	102.374	2.100	79.105	H
5	7	4	12"	4'- 0"	0'- 6 1/4"	2'- 8"	0'- 8 3/8"	0'- 5 1/2"	11'- 8"	-----	12'- 0"	48	36	52.770	1.351	134.208	13'- 6"	6	13'- 2"	6	13'- 2"	1	8	2.212	105.825	2.193	79.105	J
6	4	4	11"	4'- 8"	0'- 8 1/4"	3'- 0"	0'- 11 1/8"	0'- 7 1/2"	13'- 8"	-----	14'- 2"	56	18	53.105	1.428	134.521	15'- 6"	6	15'- 2"	6	15'- 2"	1	5	2.056	107.487	2.062	91.121	D
6	5	4	11"	4'- 8"	0'- 8 1/4"	3'- 0"	0'- 11 1/8"	0'- 7 1/2"	13'- 8"	-----	14'- 2"	56	24	55.220	1.502	140.907	15'- 6"	6	15'- 2"	6	15'- 2"	1	6	2.155	110.939	2.155	91.121	F
6	6	4	11"	4'- 8"	0'- 8 1/4"	3'- 0"	0'- 10 7/8"	0'- 7 1/4"	13'- 8"	-----	14'- 1"	56	30	57.335	1.553	156.722	15'- 6"	6	15'- 2"	6	15'- 2"	1	7	2.260	114.390	2.254	91.121	H
6	7	4	10"	4'- 8"	0'- 8"	3'- 0"	0'- 10 7/8"	0'- 7 1/4"	13'- 8"	-----	14'- 1"	56	36	59.468	1.625	179.230	15'- 6"	6	15'- 2"	6	15'- 2"	1	8	2.359	117.841	2.347	91.121	J
6	8	4	10"	4'- 8"	0'- 8"	3'- 0"	0'- 10 7/8"	0'- 7 1/4"	13'- 8"	-----	14'- 1"	56	42	61.586	1.698	199.576	15'- 6"	6	15'- 2"	6	15'- 2"	1	9	2.458	121.293	2.439	91.121	L
7	4	4	9"	5'- 4"	0'- 9 3/4"	3'- 5"	1'- 1 1/4"	0'- 9"	15'- 8"	-----	16'- 3"	64	18	59.785	1.724	184.605	17'- 6"	6	17'- 2"	6	17'- 2"	1	5	2.188	119.503	2.200	103.137	D
7	6	4	9"	5'- 4"	0'- 9 3/4"	3'- 5"	1'- 1 1/4"	0'- 9"	15'- 8"	-----	16'- 3"	64	30	64.015	1.871	198.024	17'- 6"	6	17'- 2"	6	17'- 2"	1	7	2.386	126.406	2.386	103.137	H
7	8	4	9"	5'- 4"	0'- 9 3/4"	3'- 5"	1'- 1 1/4"	0'- 9"	15'- 8"	-----	16'- 3"	64	42	68.245	2.016	241.421	17'- 6"	6	17'- 2"	6	17'- 2"	1	9	2.584	133.309	2.571	103.137	L
7	10	4	9"	5'- 5"	0'- 9 3/4"	3'- 5"	1'- 1 1/4"	0'- 9"	15'- 11"	-----	16'- 6"	64	54	72.475	2.273	304.636	17'- 6"	6	17'- 2"	6	17'- 2"	1	11	2.781	140.211	2.757	103.137	P
8	4	4	8"	6'- 0"	0'- 11 1/2"	3'- 10"	1'- 3 3/4"	0'- 10 3/4"	17'- 8"	-----	18'- 4"	72	18	66.465	2.085	220.724	19'- 6"	6	19'- 2"	6	19'- 2"	1	5	2.310	131.519	2.329	115.153	E
8	6	4	8"	6'- 0"	0'- 11 1/2"	3'- 10"	1'- 3 3/4"	0'- 10 3/4"	17'- 8"	-----	18'- 4"	72	30	70.695	2.232	234.588	19'- 6"	6	19'- 2"	6	19'- 2"	1	7	2.508	138.422	2.515	115.153	I
8	8	4	8"	6'- 0"	0'- 11 1/2"	3'- 10"	1'- 3 3/4"	0'- 10 3/4"	17'- 8"	-----	18'- 4"	72	42	74.925	2.377	281.303	19'- 6"	6	19'- 2"	6	19'- 2"	1	9	2.706	145.325	2.700	115.153	M
8	10	4	8"	6'- 1"	0'- 11 1/2"	3'- 10"	1'- 3 3/4"	0'- 10 3/4"	17'- 9"	-----	18'- 6"	72	54	79.155	2.598	348.038	19'- 6"	6	19'- 2"	6	19'- 2"	1	11	2.904	152.227	2.886	115.153	Q
9	4	5	9"	6'- 8"	1'- 1 1/4"	4'- 3"	1'- 6 1/8"	1'- 3 5/8"	19'- 8"	-----	20'- 6"	80	18	73.145	2.487	288.872	21'- 6"	6	21'- 2"	6	21'- 2"	1	5	2.393	143.535	2.418	127.169	E
9	6	5	9"	6'- 8"	1'- 1 1/4"	4'- 3"	1'- 6 1/8"	1'- 3 5/8"	19'- 8"	-----	20'- 6"	80	30	77.375	2.635	302.533	21'- 6"	6	21'- 2"	6	21'- 2"	1	7	2.590	150.438	2.604	127.169	I
9	8	5	9"	6'- 7"	1'- 1 1/2"	4'- 3"	1'- 6 1/2"	1'- 5 5/8"	19'- 8"	-----	20'- 6"	80	42	81.605	2.810	350.619	21'- 6"	6	21'- 2"	6	21'- 2"	1	9	2.778	157.341	2.779	127.169	M
9	10	5	9"	6'- 8"	1'- 1 1/2"	4'- 3"	1'- 6 1/2"	1'- 5 5/8"	19'- 9"	-----	20'- 8"	80	54	85.835	3.034	404.994	21'- 6"	6	21'- 2"	6	21'- 2"	1	11	2.976	164.243	2.964	127.169	Q
9	12	5	9"	6'- 10"	1'- 1 1/2"	4'- 3"	1'- 6 1/2"	1'- 5 5/8"	20'- 2"	-----	21'- 0"	80	66	90.065	3.374	463.575	21'- 6"	6	21'- 2"	6	21'- 2"	1	13	3.128	171.146	3.104	127.169	U
10	4	5	8"	7'- 3"	1'- 3"	4'- 8"	1'- 8 5/8"	1'- 2 1/8"	21'- 8"	-----	22'- 7"	88	18	79.825	2.938	289.339	23'- 6"	6	23'- 2"	6	23'- 2"	1	5	2.477	155.551	2.510	139.185	E
10	6	6	9"	7'- 4"	1'- 2 3/4"	4'- 8"	1'- 8 1/8"	1'- 1 3/4"	21'- 8"	-----	22'- 7"	88	30	84.055	3.047	357.346	23'- 6"	6	23'- 2"	6	23'- 2"	1	7	2.663	162.454	2.683	139.185	I
10	8	6	9"	7'- 4"	1'- 2 3/4"	4'- 8"	1'- 8 1/8"	1'- 1 3/4"	21'- 8"	-----	22'- 7"	88	42	88.285	3.192	404.290	23'- 6"	6	23'- 2"	6	23'- 2"	1	9	2.861	169.357	2.869	139.185	M
10	10	6	9"	7'- 5"	1'- 3"	4'- 8"	1'- 8 1/2"	1'- 2"	21'- 9"	-----	22'- 9"	88	54	92.515	3.450	469.281	23'- 6"	6	23'- 2"	6	23'- 2"	1	11	3.047	176.259	3.042	139.185	Q
10	12	6	9"	7'- 6"	1'- 3 1/4"	4'- 8"	1'- 8 3/8"	1'- 2 1/4"	22'- 2"	-----	23'- 1"	88	66	96.745	3.828	524.134	23'- 6"	6	23'- 2"	6	23'- 2"	1	13	3.186	183.162	3.168	139.185	U
12	6	7	9"	8'- 8"	1'- 6 1/4"	5'- 5"	2'- 1"	1'- 5"	25'- 8"	-----	26'- 9"	104	30	97.415	4.059	522.958	27'- 6"	6	27'- 2"	6	27'- 2"	1	7	2.741	186.486	2.775	163.217	J
12	8	7	9"	8'- 8"	1'- 6 1/4"	5'- 5"	2'- 1"	1'- 5"	25'- 8"	-----	26'- 9"	104	42	101.645	4.204	574.103	27'- 6"	6	27'- 2"	6	27'- 2"	1	9	2.939	193.389	2.960	163.217	N
12	10	7	9"	8'- 8"	1'- 6 1/4"	5'- 5"	2'- 1"	1'- 5"	25'- 9"	-----	26'- 10"	104	54	105.875	4.389	638.521	27'- 6"	6	27'- 2"	6	27'- 2"	1	11	3.137	200.291	3.145	163.217	R
12	12	7	9"	8'- 11"	1'- 6 1/2"	5'- 5"	2'- 1/4"	1'- 5 1/4"	26'- 2"	-----	27'- 4"	104	66	110.105	4.822	699.915	27'- 6"	6	27'- 2"	6	27'- 2"	1	13	3.271	207.194	3.267	163.217	V

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

SPECIFICATION REFERENCE	<h2 style="text-align: center;">DOUBLE BOX CULVERTS</h2> <h3 style="text-align: center;">20 TO 30 FT. FILLS</h3> <p style="text-align: center;">VIRGINIA DEPARTMENT OF TRANSPORTATION</p>		 ROAD AND BRIDGE STANDARDS	
			REVISION DATE	SHEET 2 OF 2
			07/11	1003.14