

2016 ROAD & BRIDGE STANDARDS

BCQ-20

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

DIMENSIONS							REINFORCING STEEL																									
SPAN	HGHT	T1	T2	T3	T4							BH1			BH2			BH3			BH4			BV1			BV2					
(FT.)	(FT.)	TOP SLAB	BOTTOM SLAB	EXTERIOR WALL (IN.)	INTERIOR WALL (IN.)	A	B	C	D	E	F	SIZE	SPACING C-C	LENGTH	SIZE	SPACING C-C	LENGTH	SIZE	SPACING C-C	a	LENGTH	SIZE	SPACING C-C	a	b	LENGTH	SIZE	SPACING C-C	LENGTH	SIZE	SPACING C-C	LENGTH
3	3	8"	8"	8"	8"	13	13'- 0"	13	13'- 0"	1	1'- 0"	4	12"	13'- 11"	4	12"	15'- 0"	--	---	----	-----	4	12"	2'- 4"	2'- 8"	4'- 9"	4	12"	4'- 0"	4	12"	4'- 0"
3	4	8"	8"	8"	8"	13	13'- 0"	13	13'- 0"	2	2'- 0"	4	12"	13'- 11"	4	12"	15'- 0"	--	---	----	-----	4	12"	2'- 4"	3'- 2"	5'- 3"	4	12"	5'- 0"	4	12"	5'- 0"
4	3	8"	8"	8"	8"	17	17'- 0"	17	17'- 0"	1	1'- 0"	4	12"	17'- 11"	4	12"	19'- 0"	--	---	----	-----	4	12"	2'- 4"	2'- 8"	4'- 9"	4	12"	4'- 0"	4	12"	4'- 0"
4	4	8"	8"	8"	8"	17	17'- 0"	17	17'- 0"	2	2'- 0"	4	12"	17'- 11"	4	12"	19'- 0"	--	---	----	-----	4	12"	2'- 4"	3'- 2"	5'- 3"	4	12"	5'- 0"	4	12"	5'- 0"
4	5	8"	8"	8"	8"	17	17'- 0"	17	17'- 0"	3	3'- 0"	4	12"	17'- 11"	4	12"	19'- 0"	--	---	----	-----	4	12"	2'- 4"	3'- 8"	5'- 9"	4	12"	6'- 0"	4	12"	6'- 0"
4	6	8"	8"	8"	8"	17	17'- 0"	17	17'- 0"	4	4'- 0"	4	12"	17'- 11"	4	12"	19'- 0"	--	---	----	-----	4	12"	2'- 4"	4'- 2"	6'- 3"	4	12"	7'- 0"	4	12"	7'- 0"
5	3	8"	8"	8"	8"	21	21'- 0"	21	21'- 0"	1	1'- 0"	4	12"	21'- 11"	4	12"	23'- 0"	4	12"	2'- 6"	4'- 9"	4	12"	2'- 4"	2'- 8"	4'- 9"	4	12"	4'- 0"	4	12"	4'- 0"
5	4	8"	8"	8"	8"	21	21'- 0"	21	21'- 0"	2	2'- 0"	4	12"	21'- 11"	4	12"	23'- 0"	4	12"	2'- 6"	4'- 9"	4	12"	2'- 4"	3'- 2"	5'- 3"	4	12"	5'- 0"	4	12"	5'- 0"
5	5	8"	8"	8"	8"	21	21'- 0"	21	21'- 0"	3	3'- 0"	4	12"	21'- 11"	4	12"	23'- 0"	3	12"	2'- 6"	4'- 10"	4	12"	2'- 4"	3'- 8"	5'- 9"	4	12"	6'- 0"	4	12"	6'- 0"
5	6	8"	8"	8"	8"	21	21'- 0"	21	21'- 0"	4	4'- 0"	4	12"	21'- 11"	4	12"	23'- 0"	3	12"	2'- 9"	5'- 3"	4	12"	2'- 4"	4'- 2"	6'- 3"	4	12"	7'- 0"	4	12"	7'- 0"
5	7	8"	8"	8"	8"	21	21'- 0"	21	21'- 0"	5	5'- 0"	4	12"	21'- 11"	4	12"	23'- 0"	4	12"	2'- 11"	5'- 7"	4	12"	2'- 4"	4'- 8"	6'- 9"	5	12"	8'- 0"	4	12"	8'- 0"
6	4	9/4"	9/4"	8"	8"	25	25'- 0"	25	25'- 0"	2	2'- 0"	4	12"	25'- 11"	4	12"	27'- 0"	4	12"	2'- 9"	5'- 2"	4	12"	2'- 4"	3'- 4"	5'- 4"	4	12"	5'- 2"	4	12"	5'- 2"
6	5	9/4"	9/4"	8"	8"	25	25'- 0"	25	25'- 0"	3	3'- 0"	4	11"	25'- 11"	4	11"	27'- 0"	4	11"	2'- 9"	5'- 2"	4	11"	2'- 4"	3'- 10"	5'- 10"	4	12"	6'- 2"	4	12"	6'- 2"
6	6	9/2"	9/2"	8"	8"	25	25'- 0"	25	25'- 0"	4	4'- 0"	4	12"	25'- 11"	4	12"	27'- 0"	4	12"	2'- 10"	5'- 5"	4	12"	2'- 4"	4'- 4"	6'- 4"	4	12"	7'- 3"	4	12"	7'- 3"
6	7	9/2"	9/2"	8"	8"	25	25'- 0"	25	25'- 0"	5	5'- 0"	4	11"	25'- 11"	4	11"	27'- 0"	4	11"	3'- 1"	5'- 10"	4	11"	2'- 4"	4'- 10"	6'- 10"	4	12"	8'- 3"	4	12"	8'- 3"
6	8	9/2"	9/2"	8"	8"	25	25'- 0"	25	25'- 0"	6	6'- 0"	4	11"	25'- 8"	4	11"	27'- 0"	--	---	----	-----	5	11"	2'- 6"	5'- 6"	7'- 7"	5	12"	9'- 3"	4	12"	9'- 3"
7	4	10/2"	10/2"	8"	8"	29	29'- 0"	29	29'- 0"	2	2'- 0"	4	10"	29'- 11"	4	10"	31'- 0"	3	10"	2'- 11"	5'- 8"	4	10"	2'- 4"	3'- 5"	5'- 5"	4	12"	5'- 5"	4	12"	5'- 5"
7	6	10/4"	10/4"	8"	8"	29	29'- 0"	29	29'- 0"	4	4'- 0"	4	10"	29'- 11"	4	10"	31'- 0"	3	10"	3'- 0"	5'- 8"	4	10"	2'- 4"	4'- 5"	6'- 6"	4	12"	7'- 5"	4	12"	7'- 5"
7	8	11"	11"	8"	8"	29	29'- 0"	29	29'- 0"	6	6'- 0"	4	10"	29'- 11"	4	10"	31'- 0"	3	10"	3'- 5"	6'- 7"	4	10"	2'- 4"	5'- 5"	7'- 6"	5	12"	9'- 6"	4	12"	9'- 6"
7	10	11/4"	11/4"	8"	8"	29	29'- 0"	29	29'- 0"	8	8'- 0"	4	10"	29'- 8"	4	10"	31'- 0"	3	10"	3'- 10"	7'- 5"	5	10"	2'- 6"	6'- 8"	8'- 9"	6	10/2"	11'- 6"	4	12"	11'- 6"
8	4	12"	12"	8"	8"	33	33'- 0"	33	33'- 0"	2	2'- 0"	4	9"	33'- 11"	4	9"	35'- 0"	3	9"	3'- 2"	6'- 1"	4	9"	2'- 4"	3'- 6"	5'- 7"	4	12"	5'- 8"	4	12"	5'- 8"
8	6	12/4"	12/4"	8"	8"	33	33'- 0"	33	33'- 0"	4	4'- 0"	4	9"	33'- 11"	4	9"	35'- 0"	--	---	----	-----	4	9"	2'- 4"	4'- 7"	6'- 7"	4	12"	7'- 8"	4	12"	7'- 8"
8	8	12/4"	12/4"	8"	8"	33	33'- 0"	33	33'- 0"	6	6'- 0"	5	9"	33'- 11"	5	9"	35'- 0"	3	9"	3'- 6"	6'- 9"	4	9"	2'- 9"	5'- 7"	8'- 0"	5	12"	9'- 8"	4	12"	9'- 8"
8	10	12/2"	12/2"	8"	8"	33	33'- 0"	33	33'- 0"	8	8'- 0"	5	9"	33'- 8"	5	9"	35'- 0"	3	9"	3'- 11"	7'- 7"	5	9"	2'- 11"	6'- 9"	9'- 3"	5	7"	11'- 9"	4	12"	11'- 9"
9	4	13"	13"	8"	8"	37	37'- 0"	37	37'- 0"	2	2'- 0"	5	8"	37'- 11"	5	8"	39'- 0"	3	8"	3'- 4"	6'- 5"	4	8"	2'- 9"	3'- 7"	6'- 1"	4	10/2"	5'- 10"	4	12"	5'- 10"
9	6	13/4"	13/4"	8"	8"	37	37'- 0"	37	37'- 0"	4	4'- 0"	5	8"	37'- 11"	5	8"	39'- 0"	--	---	----	-----	4	8"	2'- 9"	4'- 8"	7'- 1"	4	12"	7'- 10"	4	12"	7'- 10"
9	8	13/4"	13/4"	8"	8"	37	37'- 0"	37	37'- 0"	6	6'- 0"	5	8"	37'- 11"	5	8"	39'- 0"	3	8"	3'- 7"	6'- 11"	4	8"	2'- 9"	5'- 8"	8'- 1"	5	12"	9'- 10"	4	12"	9'- 10"
9	10	13/2"	13/2"	8"	8"	37	37'- 0"	37	37'- 0"	8	8'- 0"	5	8"	37'- 11"	5	8"	39'- 0"	4	8"	4'- 0"	7'- 8"	4	8"	2'- 9"	6'- 8"	9'- 1"	5	8"	11'- 11"	4	12"	11'- 11"
9	12	13/2"	13/2"	9.5"	8"	37	37'- 0"	37	37'- 0"	10	10'- 0"	5	9"	37'- 5"	5	9"	39'- 3"	--	---	----	-----	7	9"	3'- 2"	8'- 3"	10'- 11"	6	7/2"	13'- 11"	4	12"	13'- 11"
10	4	14/4"	14/4"	8"	8"	41	41'- 0"	41	41'- 0"	2	2'- 0"	5	9"	41'- 8"	5	9"	43'- 0"	--	---	----	-----	5	9"	2'- 11"	3'- 11"	6'- 5"	4	10"	6'- 0"	4	12"	6'- 0"
10	6	14/2"	14/2"	8"	8"	41	41'- 0"	41	41'- 0"	4	4'- 0"	5	9"	41'- 8"	5	9"	43'- 0"	--	---	----	-----	5	9"	2'- 11"	4'- 11"	7'- 5"	4	12"	8'- 0"	4	12"	8'- 0"
10	8	14/2"	14/2"	8"	8"	41	41'- 0"	41	41'- 0"	6	6'- 0"	5	9"	41'- 8"	5	9"	43'- 0"	--	---	----	-----	5	9"	2'- 11"	5'- 11"	8'- 5"	5	12"	10'- 0"	4	12"	10'- 0"
10	10	14/4"	14/4"	8"	8"	41	41'- 0"	41	41'- 0"	8	8'- 0"	5	9"	41'- 8"	5	9"	43'- 0"	3	9"	4'- 1"	8'- 0"	5	9"	2'- 11"	6'- 11"	9'- 5"	5	8"	12'- 1"	4	12"	12'- 1"
10	12	14/4"	14/4"	9.5"	8"	41	41'- 0"	41	41'- 0"	10	10'- 0"	6	9"	41'- 8"	5	9"	43'- 3"	3	9"	4'- 6"	8'- 9"	6	9"	3'- 5"	8'- 1"	11'- 1"	6	7/2"	14'- 1"	4	12"	14'- 1"
12	6	17"	17"	8"	8"	49	49'- 0"	49	49'- 0"	4	4'- 0"	6	8"	49'- 11"	5	8"	51'- 0"	--	---	----	-----	4	8"	3'- 2"	4'- 11"	7'- 10"	4	12"	8'- 6"	4	12"	8'- 6"
12	8	17/4"	17/4"	8"	8"	49	49'- 0"	49	49'- 0"	6	6'- 0"	6	8"	49'- 11"	5	8"	51'- 0"	3	8"	3'- 11"	7'- 8"	4	8"	3'- 2"	6'- 0"	8'- 10"	5	12"	10'- 6"	4	12"	10'- 6"
12	10	17/2"	17/2"	8"	8"	49	49'- 0"	49	49'- 0"	8	8'- 0"	6	8"	49'- 8"	5	8"	51'- 0"	--	---	----	-----	5	8"	3'- 4"	7'- 2"	10'- 1"	5	7/2"	12'- 6"	4	12"	12'- 6"
12	12	17/2"	17/2"	9.5"	8"	49	49'- 0"	49	49'- 0"	10	10'- 0"	6	8"	49'- 11"	5	8"	51'- 3"	4	8"	4'- 9"	9'- 2"	5	8"	3'- 4"	8'- 2"	11'- 1"	6	7/2"	14'- 6"	4	12"	14'- 6"

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

VDOT
ROAD AND BRIDGE STANDARDS

SHEET 1 OF 2 REVISION DATE
1005.11 07/11

QUADRUPLE BOX CULVERTS
10 TO 20 FT. FILLS

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE