

Estimate of Quantities - Flume Bell Joints

Junction Bell Joint			14' x 4'			14' x 5'			14' x 6'			14' x 7'			14' x 8'			14' x 9'			14' x 10'			14' x 11'			14' x 12'			14' x 13'			14' x 14'					
Bar	Location	Shape	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight						
6w1	Walls & Floor		4	27'-9"	167	4	27'-9"	167	4	27'-9"	167	4	27'-9"	167	4	27'-11"	168	4	27'-11"	168	4	27'-11"	168	4	28'-1"	169	4	28'-3"	170	4	28'-3"	170	4	28'-7"	172			
6w3	Walls Vert.		8	4'-4"	52	8	5'-4"	64	8	6'-4"	76	8	7'-4"	88	8	8'-4"	100	8	9'-4"	112	8	10'-4"	124	8	11'-4"	136	8	12'-4"	148	8	13'-4"	160	8	14'-4"	172			
6y1	Walls Horiz.		12	7'-8"	138	14	7'-8"	161	16	7'-8"	184	18	7'-8"	207	20	7'-10"	235	22	7'-10"	259	24	7'-10"	282	26	7'-11"	309	28	8'-1"	340	30	8'-1"	364	32	8'-2"	393			
6y2	Floor Vert.		16	9'-2"	220	16	9'-2"	220	16	9'-2"	220	16	9'-2"	220	16	9'-2"	220	16	9'-2"	220	16	9'-2"	220	16	9'-2"	220	16	9'-2"	220	16	9'-2"	220	16	9'-2"	220			
6z1	Floor Vert.		16	4'-3"	102	16	4'-3"	102	16	4'-3"	102	16	4'-3"	102	16	4'-3"	102	16	4'-3"	102	16	4'-3"	102	16	4'-3"	102	16	4'-3"	102	16	4'-3"	102	16	4'-3"	102			
Total Weight (LB)			679			714			749			784			825			861			896			932			980			1016			1059					
Concrete (CY)			Footings			3.6			3.6			3.6			3.6			3.6			3.6			3.7			3.7			3.7			3.7					
			Walls			1.3			1.6			1.9			2.1			2.4			2.7			3.0			3.3			3.6			3.9			4.1		
			Total			4.9			5.2			5.5			5.7			6.0			6.3			6.6			7.0			7.3			7.6			7.8		
Chute Bell Joint			14' x 4'			14' x 5'			14' x 6'			14' x 7'			14' x 8'			14' x 9'			14' x 10'			14' x 11'			14' x 12'			14' x 13'			14' x 14'					
Bar	Location	Shape	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight			
6w4	Walls & Floor		--	--	--	--	--	--	8	4'-0"	48	8	4'-9"	57	8	5'-6"	66	8	6'-3"	75	8	7'-0"	84	8	7'-9"	93	8	8'-6"	102	8	9'-3"	111	8	10'-0"	120			
6y3	Walls Horiz.		8	7'-8"	92	10	7'-8"	115	12	7'-8"	138	12	7'-8"	138	14	7'-10"	165	16	7'-10"	188	18	7'-10"	212	18	7'-11"	214	20	8'-1"	243	22	8'-1"	267	24	8'-2"	294			
6y4	Floor Vert.		16	9'-1"	218	16	9'-1"	218	16	9'-1"	218	16	9'-1"	218	16	9'-1"	218	16	9'-1"	218	16	9'-1"	218	16	9'-1"	218	16	9'-1"	218	16	9'-1"	218	16	9'-1"	218			
6z1	Floor Vert.		16	4'-3"	102	16	4'-3"	102	16	4'-3"	102	16	4'-3"	102	16	4'-3"	102	16	4'-3"	102	16	4'-3"	102	16	4'-3"	102	16	4'-3"	102	16	4'-3"	102	16	4'-3"	102			
Total Weight (LB)			579			611			673			682			719			751			784			796			835			868			906					
Concrete (CY)			Footings			3.5			3.5			3.5			3.5			3.5			3.5			3.6			3.6			3.6			3.6					
			Walls			0.8			1.0			1.2			1.4			1.6			1.8			2.0			2.3			2.5			2.7			2.9		
			Total			4.3			4.5			4.7			4.9			5.1			5.3			5.5			5.9			6.1			6.3			6.5		

Barrel & Chute Dimensions

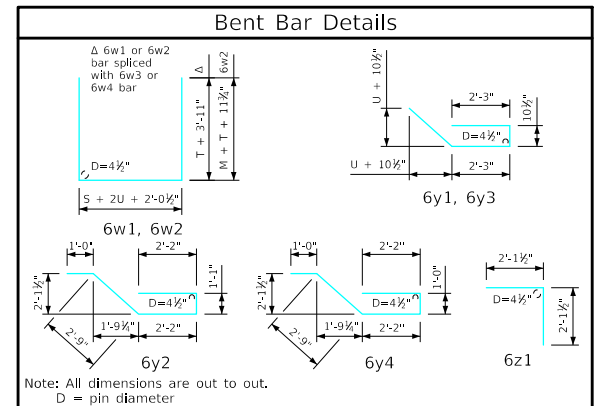
S x H	M	T	U	BT	BU
14' x 4'	3'-0"	1'-2"	9"	1'-1"	9"
14' x 5'	3'-9"	1'-2"	9"	1'-1"	9"
14' x 6'	4'-6"	1'-2"	9"	1'-1"	9"
14' x 7'	5'-3"	1'-2"	9"	1'-1"	9"
14' x 8'	6'-0"	1'-2"	10"	1'-1"	9"
14' x 9'	6'-9"	1'-2"	10"	1'-1"	9"
14' x 10'	7'-6"	1'-2"	10"	1'-1"	10"
14' x 11'	8'-3"	1'-2"	11"	1'-1"	11"
14' x 12'	9'-0"	1'-2"	1'-0"	1'-1"	1'-0"
14' x 13'	9'-9"	1'-2"	1'-0"	1'-1"	1'-1"
14' x 14'	10'-6"	1'-3"	1'-1"	1'-2"	1'-2"

S = Culvert Span
H = Culvert Height

Notes:

- Dimensions and quantities shown based on "U" flume walls, "BU" barrel walls, "T" flume floor and "BT" barrel floor thicknesses.
- Change lengths of bars 6w1 and adjust reinforcing steel and concrete quantities accordingly for wall and floor thicknesses other than shown.
- Floor bars m1 are to be shortened 6" at bell joints.
- See Sheet RCF 01-20 for general information.

Bent Bar Details



Note:
See Sheet FBJ 07-20 for flume bell joint details.

LATEST REVISION DATE	APPROVED BY BRIDGE ENGINEER	
		Standard Design Single Reinforced Concrete Box Culverts December, 2020
		Flume Bell Joint Details 14'-0" Span
		FBJ 06-20