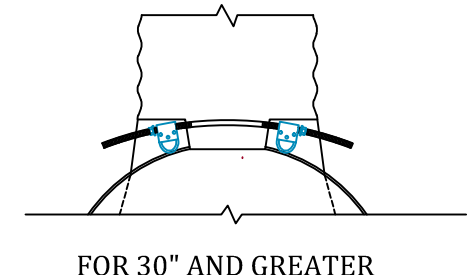
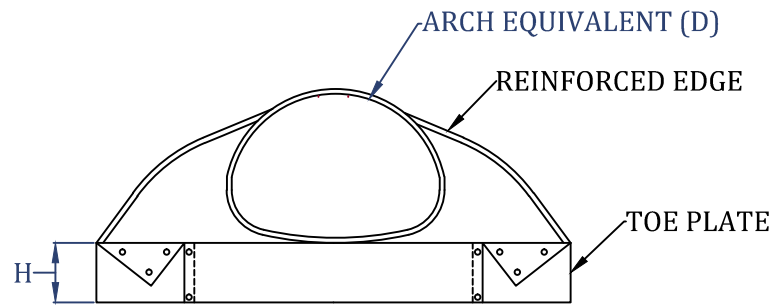
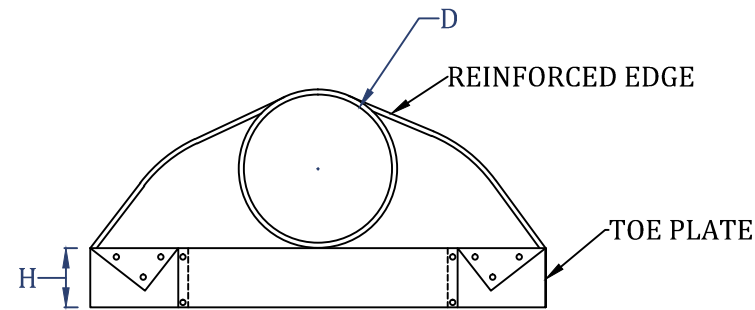


FOR 8" THRU 24"



FOR 30" AND GREATER



END SECTIONS FOR ARCH PIPE										
SPAN & RISE (IN)	DIA. (IN)	GA.	WEIGHT (LBS)	A (IN)	B (IN)	H (IN)	L (IN)	W (IN)	SLOPE	OVERALL WIDTH (IN)
17x13	15	16	25	7	9	6	19	30	2 1/2	44
21x15	18	16	32	7	10	6	23	36	2 1/2	50
24x18	21	16	42	8	12	6	28	42	2 1/2	58
28x20	24	16	52	9	14	6	32	48	2 1/2	66
35x24	30	14	92	10	16	8	39	60	2 1/2	80
42x29	36	14	133	12	18	9	46	75	2 1/2	99
49x33	42	12	233	13	21	12	53	85	2 1/2	111
57x38	48	12	315	18	26	12	63	90	2 1/2	126
53x41*	48	12	330	18	25	12	63	90	2 1/2	126
64x43	54	12	357	18	30	12	70	102	2	138
60x46*	54	12	375	18	34	12	70	102	2	138
71x47	60	12/10	480	18	33	12	77	114	1 1/2	150
66x51*	60	12/10	487	18	33	12	77	116	1 1/2	152
77x52	66	12/10	616	18	36	12	77	126	1 1/2	162
73x55*	66	12/10	625	18	36	12	77	126	1 1/2	162
83x57	72	12/10	670	18	39	12	77	138	1 1/2	174
81x59*	72	12/10	680	18	39	12	77	138	1 1/2	174
87x63	78	12/10	729	20	38	12	77	148	1 1/2	192
95x67	84	12/10	755	20	34	12	87	162	1 1/2	206
103x71	90	12/10	810	20	38	12	87	174	1 1/2	216
112x75	96	12/10	907	20	40	12	87	174	1 1/2	222

END SECTIONS FOR ROUND PIPE										
DIA. (IN)	GA.	WEIGHT (LBS)	A (IN)	B (IN)	H (IN)	L (IN)	W (IN)	SLOPE	OVERALL WIDTH (IN)	
6	18	10	4	1	3	8	12	2	20	
8	18	14	5 3/4	5	4	14 1/2	16	2 1/4	27 1/2	
10	18	17	7 5/8	6	6	14 1/2	20	2 1/2	35 1/4	
12*	16	25	7	6	6	21	24	2 1/2	38	
15*	16	33	8	8	6	26	30	2 1/2	46	
18*	16	42	8	10	6	31	36	2 1/2	52	
21	16	49	9	12	6	36	42	2 1/2	60	
24*	16	65	10	13	6	41	48	2 1/2	68	
30*	14	123	12	16	8	51	60	2 1/2	84	
36*	14	135	14	19	9	60	72	2 1/2	100	
42	12	320	16	22	11	69	84	2 1/2	116	
48	12	375	18	27	12	78	90	2 1/4	126	
54	12	440	18	30	12	84	102	2 1/4	138	
60	12/10	610	18	33	12	87	114	2	150	
66	12/10	697	18	36	12	87	120	2	156	
72	12/10	720	18	39	12	87	126	2	162	
78	12/10	810	18	42	12	87	132	1 1/2	168	
84	12/10	850	18	45	12	87	138	1 1/2	174	
90	12/10	910	24	37	12	87	144	1 1/2	192	
96	12/10	985	25	35	12	87	150	1 1/2	200	

\* FABRICATED BY TRUENORTH STEEL

\* DESIGNATES DIMENSIONS FOR 5X1 CSP

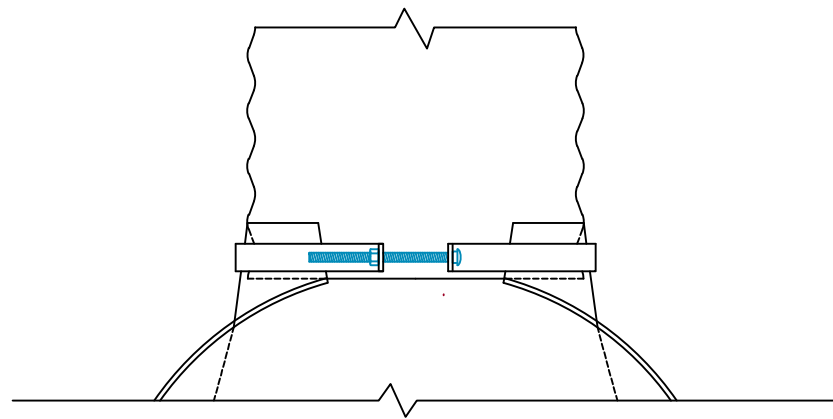
\*\* TRUENORTH STEEL DOES NOT FABRICATE ANY ARCHED END SECTIONS

NOTES:

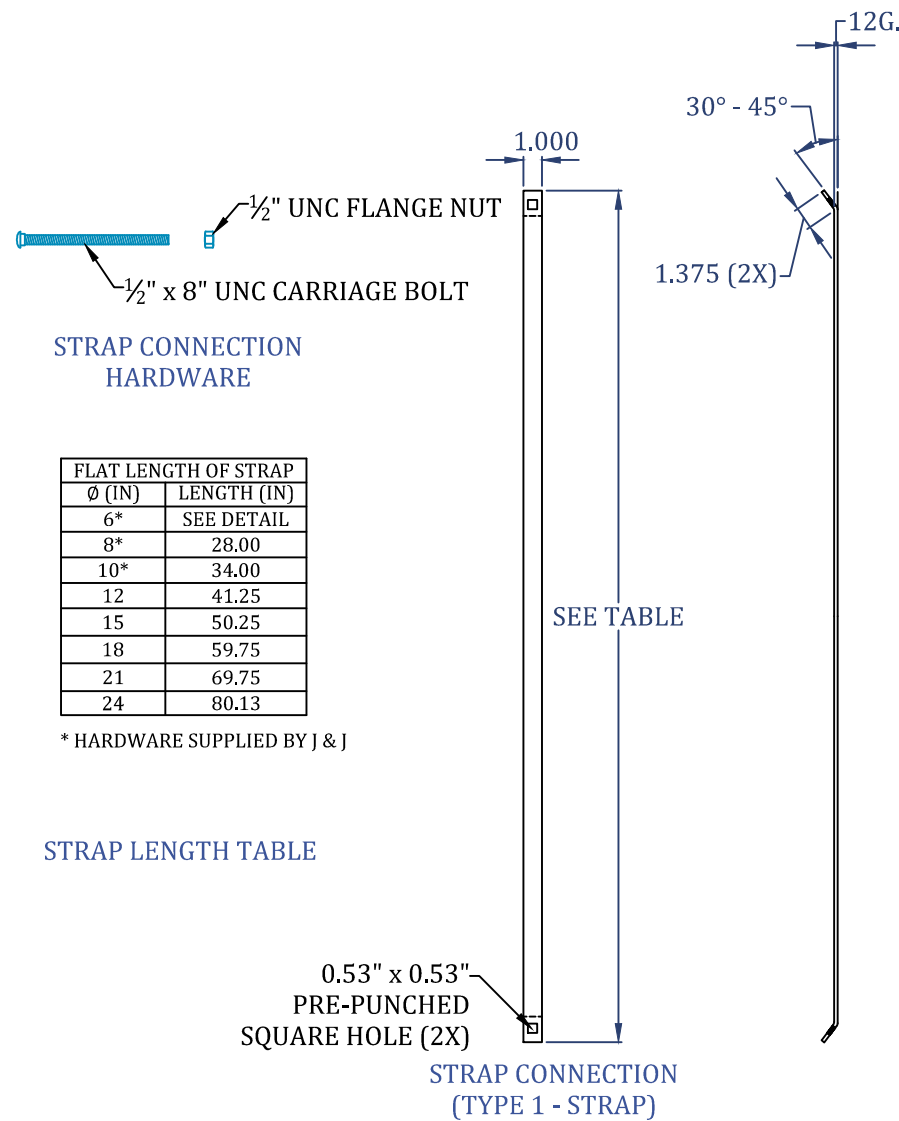
1. ALL END SECTIONS ARE MADE OF 20Z ZINC OR ALUM T2 COATED STEEL (SEE CHART ABOVE FOR GAUGES)
2. ALL END SECTIONS MEET THE REQUIREMENTS OF AASHTO-M 36, ASSHTO-M 218 AND ASTM-A 760.

DRAWING IS NOT TO SCALE ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED ALL WELDS MUST BE REPAIRED AFTER FABRICATION (PER ASTM 760) PIPE LENGTHS HAVE A TOLERANCE OF ± 2" PIPE DIAMETERS HAVE A TOLERANCE OF THE GREATER OF ± 1/2" OR 1% ALL ANGLES HAVE A TOLERANCE OF ± 3°		TOLERANCES X.X ± 0.5" X.XX ± 0.25" X.XXX ± 0.13"	DESCRIPTION: DRAWN BY: C. HOMAN DATE: SHEET NO: 1 OF 1	PART NO: SEE ABOVE MATERIAL: SEE ABOVE	THIS DESIGN IS PROPERTY OF TRUENORTH STEEL DUPLICATION WITHOUT WRITTEN PERMISSIONS IS STRICTLY PROHIBITED
1 NO.	RELEASED FOR APPROVAL REVISION	01-01-11 DATE	CUSTOMER APPROVAL SIGNATURE DATE		





### FOR 8" THRU 24" STRAP CONNECTION



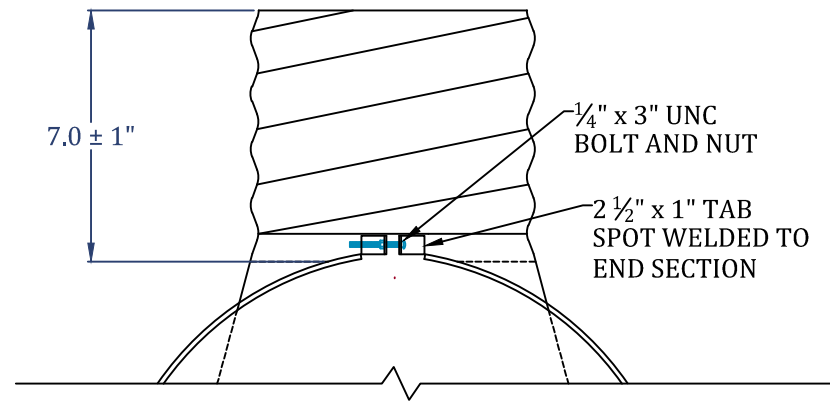
STRAP CONNECTION  
HARDWARE

FLAT LENGTH OF STRAP	
Ø (IN)	LENGTH (IN)
6*	SEE DETAIL
8*	28.00
10*	34.00
12	41.25
15	50.25
18	59.75
21	69.75
24	80.13

\* HARDWARE SUPPLIED BY J & J

STRAP LENGTH TABLE

STRAP CONNECTION  
(TYPE 1 - STRAP)



### FOR 6"

NOTE: 6", 8" AND 10" COME WITH A 7" STUB AND REQUIRE A CONNECTING BAND. END SECTIONS CAN BE SUPPLIED WITHOUT THE STUB IF DESIRED, NO CONNECTING BAND NEEDED.

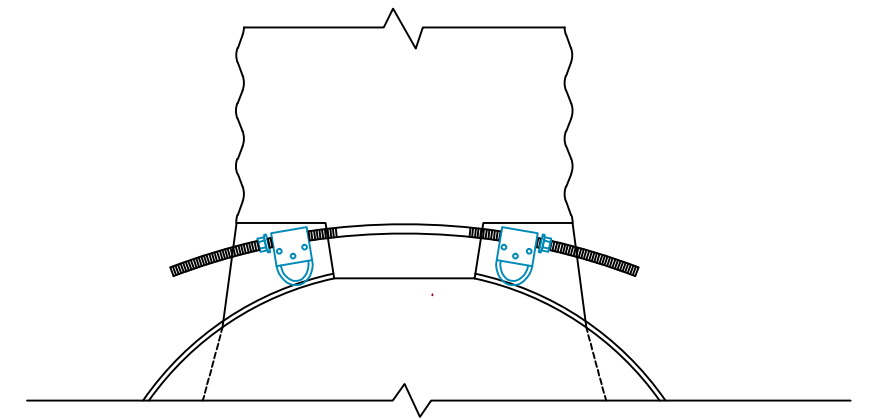
LENGTH & THICKNESS OF ROD		
END SECTION Ø (IN)	LENGTH (IN)	Ø ROD (IN)
30	39.0	0.500
36	39.0	0.500
42*	39.0	0.625
48*	52.0	0.625
54*	60.0	0.625
60*	60.0	0.625
66*	68.0	0.625
72*	68.0	0.625
78*	68.0	0.625
84*	74.0	0.625
90*	74.0	0.625
96*	74.0	0.625

LENGTH & THICKNESS OF ROD			
END SECTION Ø (IN)	ARCH DIM. (IN)	LENGTH (IN)	Ø ROD (IN)
30	35 x 24	33.0	0.500
36	42 x 29	39.0	0.500
42*	49 x 33	39.0	0.625
48*	57 x 38	52.0	0.625
54*	64 x 43	60.0	0.625
60*	71 x 47	52.0	0.625
66*	73 x 55**	60.0	0.625
72*	81 x 59**	68.0	0.625
78*	87 x 63**	68.0	0.625
84*	95 x 67**	68.0	0.625

\* HARDWARE SUPPLIED BY J & J

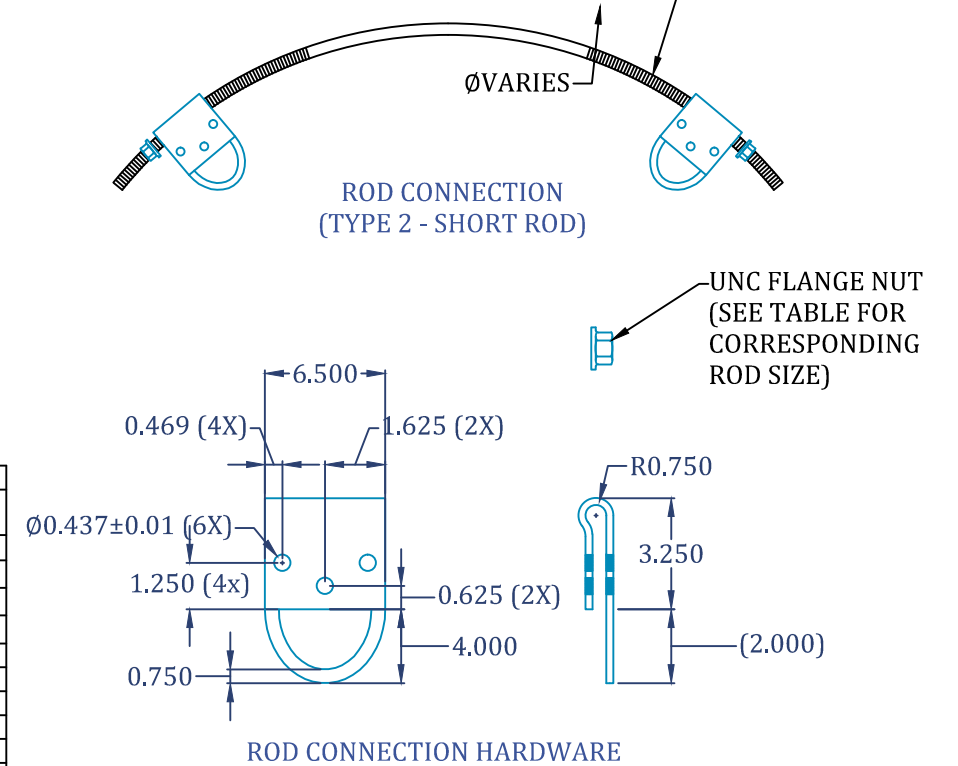
\*\* 5 x 1 CORRUGATION

ROD LENGTH AND THICKNESS TABLE



### FOR 30" AND GREATER ROD CONNECTION

UNC THREAD 13" LONG BOTH ENDS  
(SEE TABLE FOR THICKNESS AND LENGTH)



ROD CONNECTION  
(TYPE 2 - SHORT ROD)

ROD CONNECTION HARDWARE

DRAWING IS NOT TO SCALE		TOLERANCES		DESCRIPTION:	
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED		X.X ± 0.5"		DRAWN BY: C. HOMAN	
ALL WELDS MUST BE REPAIRED AFTER FABRICATION (PER ASTM 760)		X.XX ± 0.25"		DATE:	
PIPE LENGTHS HAVE A TOLERANCE OF ± 2"		X.XXX ± 0.13"		PART NO: SEE ABOVE	
PIPE DIAMETERS HAVE A TOLERANCE OF THE GREATER OF ± 1/2" OR 1%		CUSTOMER APPROVAL SIGNATURE		SHEET NO: 1 OF 1	
ALL ANGLES HAVE A TOLERANCE OF ± 3°		DATE		MATERIAL: SEE ABOVE	
1	RELEASED FOR APPROVAL	01-01-11		THIS DESIGN IS PROPERTY OF TRUENORTH STEEL. DUPLICATION WITHOUT WRITTEN PERMISSIONS IS STRICTLY PROHIBITED.	
NO.	REVISION	DATE			

