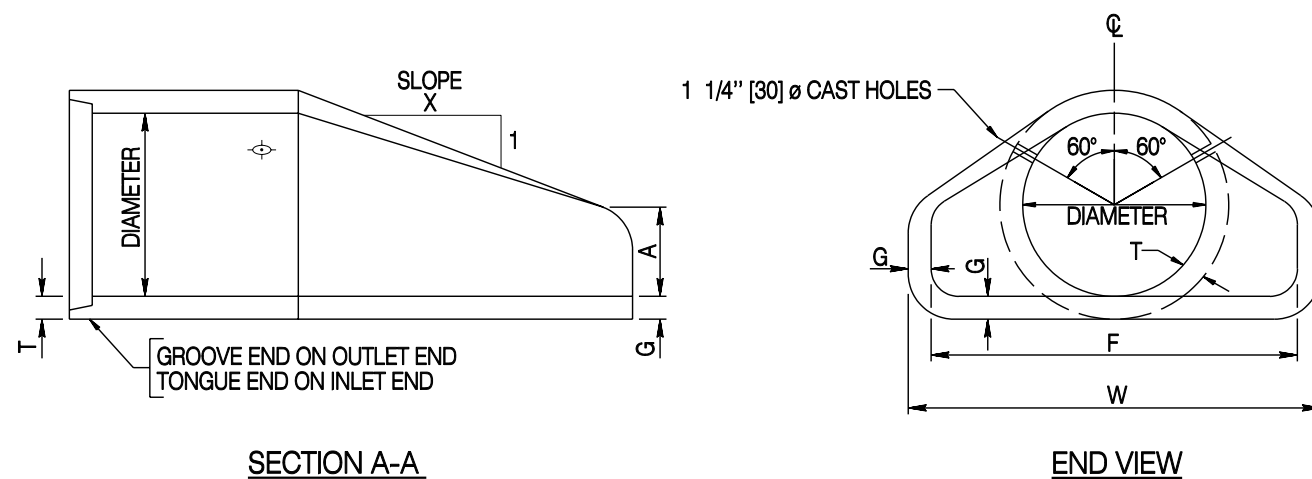


TOP VIEW



SECTION A-A

END VIEW

ROUND REINFORCED CONCRETE PIPE FLARED END DIMENSIONS										
DIA-METER	WEIGHT PER SECTION	SLOPE	*T	A	B	C	E	F	G	W
IN	LBS	1 V : X H	IN							
12	530	2.4	2	4	24	48 7/8	72 7/8	24	2	28
15	740	2.4	2 1/4	6	27	46	73	30	2 1/4	34 1/2
18	990	2.3	2 1/2	9	27	46	73	36	2 1/2	41
24	1520	2.5	3	9 1/2	43 1/2	30	73 1/2	48	3	54
30	2190	2.5	3 1/2	12	54	19 3/4	73 3/4	60	3 1/2	67
36	4100	2.5	4	15	63	34 3/4	97 3/4	72	4	80
42	5380	2.5	4 1/2	21	63	35	98	78	4 1/2	87
48	6550	2.5	5	24	72	26	98	84	5	94
54	8240	2.0	5 1/2	27	65	33 1/4	98 1/4	90	5 1/2	101
60	8730	1.9	6	35	60	39	99	96	5	106
66	10710	1.7	6 1/2	30	72	27	99	102	5 1/2	113
72	12520	1.8	7	36	78	21	99	108	6	120
78	14770	1.8	7 1/2	36	90	21	111	114	6 1/2	127
84	18160	1.6	8	36	90 1/2	21	111 1/2	120	6 1/2	133
90	20900	1.5	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	145

* WALL THICKNESSES ARE BASED ON ASTM WALL B PIPE.

METRIC TABLE

ROUND REINFORCED CONCRETE PIPE FLARED END DIMENSIONS										
DIA-METER	WEIGHT PER SECTION	SLOPE	*T	A	B	C	E	F	G	W
mm	kg	1 V : X H	mm							
300	240	2.4	50	100	610	1240	1850	610	50	710
375	335	2.4	55	150	685	1170	1855	760	55	875
450	450	2.3	65	230	685	1170	1855	915	65	1040
600	690	2.5	75	240	1105	760	1865	1220	75	1370
750	995	2.5	90	305	1370	500	1875	1525	90	1700
900	1860	2.5	100	380	1600	885	2485	1830	100	2030
1050	2440	2.5	115	535	1600	890	2490	1980	115	2210
1200	2970	2.5	125	610	1830	660	2490	2135	125	2390
1350	3740	2.0	140	685	1650	845	2495	2285	140	2565
1500	3960	1.9	150	890	1525	990	2515	2440	125	2690
1650	4860	1.7	165	760	1830	685	2515	2590	140	2870
1800	5680	1.8	180	915	1980	535	2515	2745	150	3050
1950	6700	1.8	190	915	2285	535	2820	2895	165	3225
2100	8240	1.6	205	915	2300	535	2830	3050	165	3380
2250	9480	1.5	215	1040	2225	610	2830	3355	165	3685

* WALL THICKNESSES ARE BASED ON ASTM WALL B PIPE.

Designed by: JVIC
 Drawn by: KAP
 Checked by: RRC
 Previous Dwg. No. 603-03A

ROUND RCP FLARED ENDS

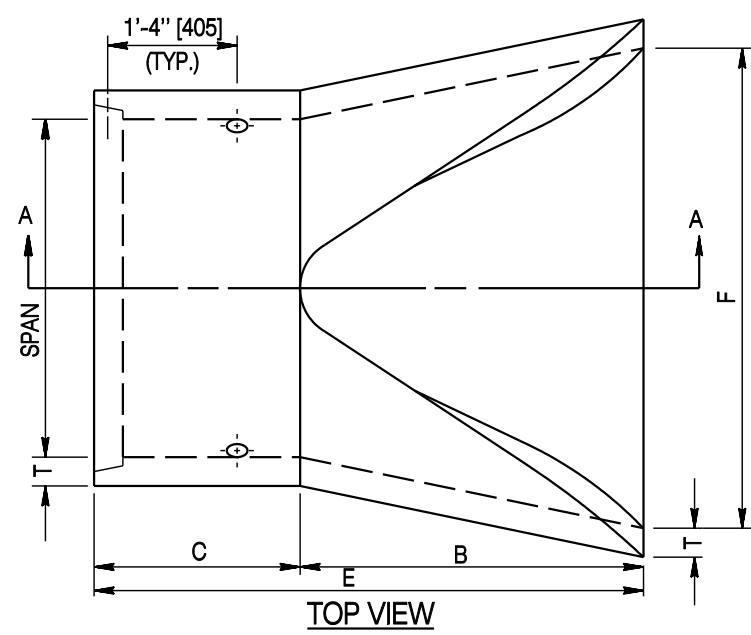
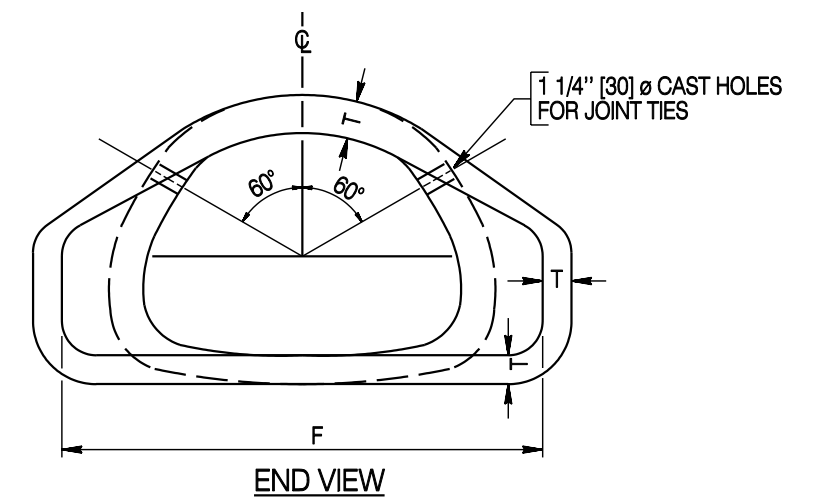
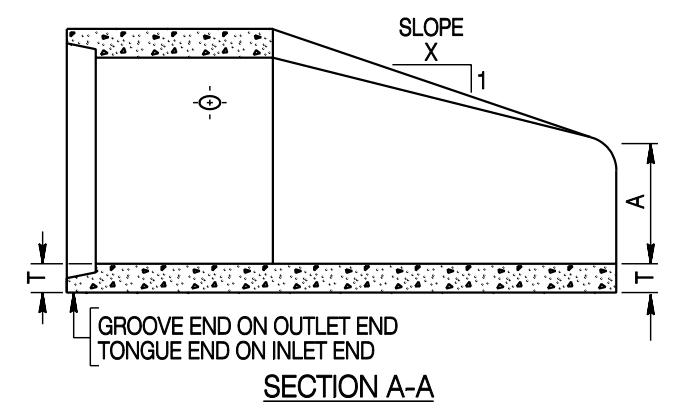
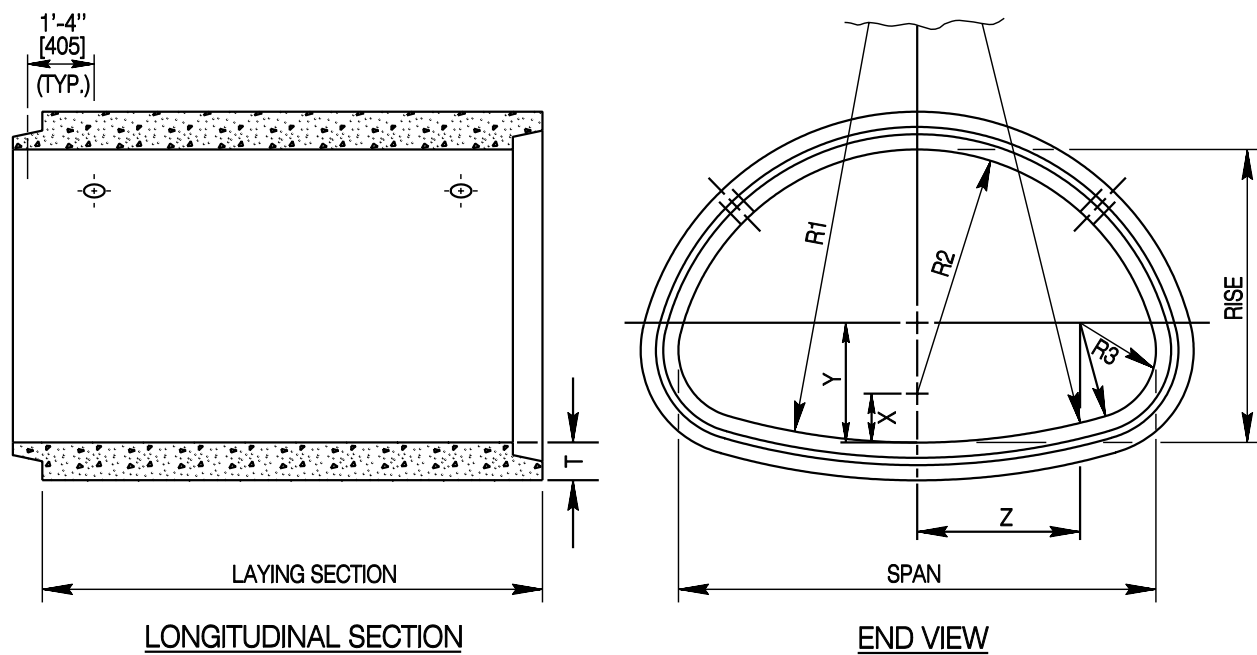
Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.



RCP FLARED END SECTIONS

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REINFORCED CONCRETE ARCH PIPE

REINFORCED CONCRETE ARCH PIPE DIMENSIONS											
NOMINAL SPAN	RISE	D EQUIV. DIAM.	WATER AREA	APPROX. WEIGHT	T	X	Y	Z	R1	R2	R3
* 22	14	18	1.65	170	2 1/2	-1/4	6	5 3/4	27 1/2	13 1/4	5 3/4
29	18	24	2.8	320	3	3 7/16	5 29/32	9 21/32	40 11/16	14 9/16	4 19/32
36	23	30	4.4	450	3 1/2	3 3/4	7 11/16	12 1/8	51	18 3/4	6 1/32
44	27	36	6.4	595	4	4 1/8	8 9/16	15 1/2	62	22 1/2	6 3/8
51	31	42	8.8	740	4 1/2	5 1/16	10 1/16	18	73	26 1/4	7 9/16
59	36	48	11.4	880	5	6	11 19/32	20 1/2	84	30	8 3/4
65	40	54	14.3	1090	5 1/2	6 5/8	13	22 11/16	92 1/2	33 3/8	9 13/16
73	45	60	17.7	1320	6	7 1/2	14 11/16	25 9/32	105	37 1/2	11 7/32
88	54	72	25.6	1840	7	9	17	31 7/16	126	45	12 9/16

REINFORCED CONCRETE ARCH PIPE FLARED END DIMENSIONS										
NOMINAL SPAN	RISE	D EQUIV. DIAM.	WEIGHT PER SECTION	SLOPE	T	A	B	C	E	F
29	18	24	1760	3	3 1/2	9	39	33	72	48
36	23	30	3280	3	4	10	50	46	96	60
44	27	36	4330	3	4 1/2	11	60	36	96	72
51	31	42	5260	3	4 1/2	16	60	36	96	78
59	36	48	6380	3	5	21	60	36	96	84
65	40	54	7860	3	5 1/2	26	60	36	96	90
73	45	60	9520	3	6	31	60	36	96	96
88	54	72	13550	2	7	31	60	39	99	120

* FLARED END SECTION NOT AVAILABLE

METRIC TABLE

REINFORCED CONCRETE ARCH PIPE DIMENSIONS											
NOMINAL SPAN	RISE	D EQUIV. DIAM.	WATER AREA	APPROX. WEIGHT	T	X	Y	Z	R1	R2	R3
* 550	350	450	0.153	255	65	-5	150	146	700	335	145
725	450	600	0.260	475	75	90	150	245	1035	370	115
900	575	750	0.409	670	90	95	195	308	1295	475	155
1100	675	900	0.594	885	100	105	218	394	1575	570	160
1275	775	1050	0.818	1100	115	130	255	457	1855	665	190
1475	900	1200	1.059	1310	125	150	295	521	2135	760	220
1625	1000	1350	1.329	1620	140	170	330	576	2350	850	250
1825	1125	1500	1.644	1965	150	190	373	642	2665	955	285
2200	1350	1800	2.378	2740	180	230	432	799	3200	1145	320

* FLARED END SECTION NOT AVAILABLE

METRIC TABLE

REINFORCED CONCRETE ARCH PIPE FLARED END DIMENSIONS										
NOMINAL SPAN	RISE	D EQUIV. DIAM.	WEIGHT PER SECTION	SLOPE	T	A	B	C	E	F
725	450	600	800	3	90	230	990	840	1830	1220
900	575	750	1490	3	100	255	1270	1170	2440	1525
1100	675	900	1965	3	115	280	1525	915	2440	1830
1275	775	1050	2385	3	115	405	1525	915	2440	1980
1475	900	1200	2895	3	125	535	1525	915	2440	2135
1625	1000	1350	3565	3	140	660	1525	915	2440	2285
1825	1125	1500	4320	3	150	785	1525	915	2440	2440
2200	1350	1800	6145	2	180	785	1525	990	2515	3050

GENERAL NOTE

APPROXIMATE EQUIVALENT DIAMETERS BY ADDING THE SPAN TO THE RISE AND DIVIDING BY TWO.

Designed by: JWC
 Drawn by: KAP
 Checked by: RRC
 Previous Dwg. No. 603-04A

ARCH RCP FLARED ENDS

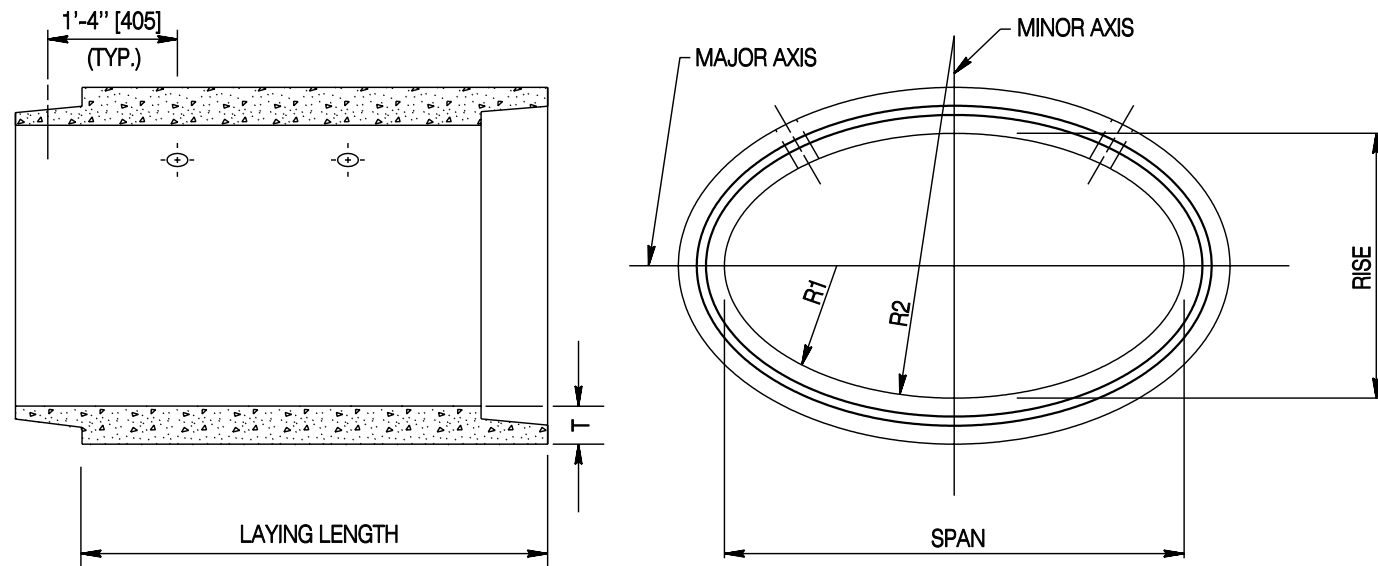
Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

RCP FLARED END SECTIONS

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 Date Issued: NOVEMBER, 2004



LONGITUDINAL SECTION

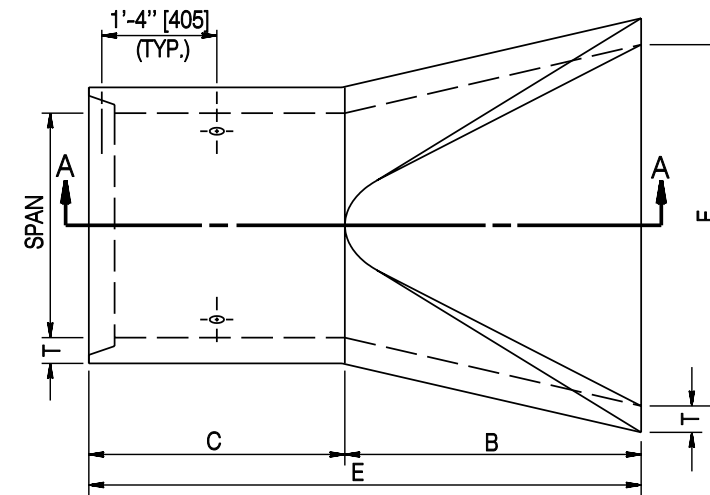
END VIEW

REINFORCED CONCRETE ELLIPTICAL PIPE

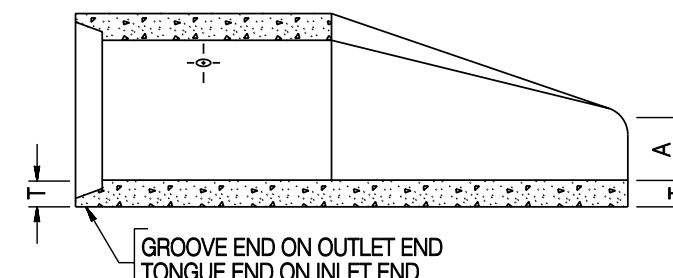
REINFORCED CONCRETE ELLIPTICAL PIPE FLARED END DIMENSIONS								
NOMINAL		D	T	A	B	C	E	F
SPAN	RISE	EQUIVALENT DIAMETER						
IN								
30	19	24	3 1/4	9	39	33	72	48
38	24	30	3 3/4	11	54	18	72	60
45	29	36	4 1/2	12	60	36	96	72
53	34	42	5	16	60	36	96	78
60	38	48	5 1/2	21	60	36	96	84
68	43	54	6	26	60	36	96	90
76	48	60	6 1/2	31	60	36	96	96

REINFORCED CONCRETE ELLIPTICAL PIPE FLARED END DIMENSIONS								
NOMINAL		D	T	A	B	C	E	F
SPAN	RISE	EQUIVALENT DIAMETER						
mm								
750	475	600	85	230	990	840	1830	1220
950	600	750	95	280	1370	455	1830	1525
1125	725	900	115	305	1525	915	2440	1830
1325	850	1050	125	405	1525	915	2440	1980
1500	950	1200	140	535	1525	915	2440	2135
1700	1075	1350	150	660	1525	915	2440	2285
1900	1200	1500	165	785	1525	915	2440	2440

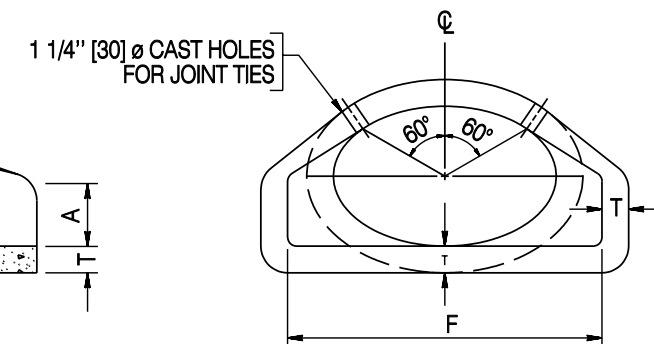
METRIC



TOP VIEW



SECTION A-A



END VIEW

FLARED END SECTIONS FOR REINFORCED CONCRETE ELLIPTICAL PIPE

REINFORCED CONCRETE ELLIPTICAL PIPE DIMENSIONS							
NOMINAL		D	T	R1	R2	AREA	APPROXIMATE WEIGHT
SPAN	RISE	EQUIVALENT DIAMETER					
IN							
23	14	18	2 3/4	6 1/4	19 1/2	1.8	195
**	30	19	3 1/4	6 1/4	26	3.3	300
*	34	22	3 1/2	9 3/8	29 1/4	4.1	365
**	38	24	3 3/4	10 3/8	32 1/2	5.1	430
*	42	27	3 3/4	11 3/8	35 3/4	6.3	475
**	45	29	4 1/2	12 3/8	39	7.4	625
*	49	32	4 3/4	13 1/2	42 3/8	8.8	720
**	53	34	5	14 1/2	45 5/8	10.2	815
**	60	38	5 1/2	16 1/2	52	12.9	1000
**	68	43	6	16 5/8	58 5/8	16.6	1235
**	76	48	6 1/2	20 3/4	65 1/8	20.5	1475
	83	53	7	22 3/4	71 5/8	24.8	1745
	91	58	7 1/2	24 7/8	78 1/8	29.5	2040
	98	63	8	26 7/8	84 5/8	34.6	2350
	106	68	8 1/2	29	91 1/8	40.1	2680
	113	72	9	31	97 5/8	46.1	3050
	121	77	9 1/2	33 1/8	104 1/8	52.4	3420
	128	82	9 3/4	35 1/4	110 5/8	59.2	3725
	136	87	10	37 1/4	117 1/8	66.4	4050
	143	92	10 1/2	39 3/8	123 3/4	74.0	4470
	151	97	11	41 3/8	130 1/4	82.0	4930

REINFORCED CONCRETE ELLIPTICAL PIPE DIMENSIONS							
NOMINAL		D	T	R1	R2	AREA	APPROXIMATE WEIGHT
SPAN	RISE	EQUIVALENT DIAMETER					
mm							
575	350	450	70	160	495	0.167	290
**	750	475	85	160	660	0.307	445
*	850	550	90	240	745	0.381	545
**	950	600	95	265	825	0.474	640
*	1050	675	95	290	910	0.585	705
**	1125	725	115	315	990	0.687	930
*	1225	800	120	345	1075	0.818	1070
**	1325	850	125	370	1160	0.948	1215
**	1500	950	140	420	1320	1.198	1490
**	1700	1075	150	420	1490	1.542	1840
**	1900	1200	165	525	1655	1.905	2195
	2075	1325	180	580	1820	2.304	2595
	2275	1450	190	630	1985	2.741	3035
	2450	1575	205	685	2150	3.214	3495
	2650	1700	215	735	2315	3.725	3990
	2825	1800	230	785	2480	4.283	4540
	3025	1925	240	840	2645	4.868	5090
	3200	2050	250	895	2810	5.500	5545
	3400	2175	255	945	2975	6.169	6025
	3575	2300	265	1000	3145	6.875	6650
	3775	2425	280	1050	3310	7.618	7335

METRIC

** FLARED END SECTIONS AVAILABLE ONLY FOR THESE SECTIONS.
* THESE SIZES ARE NOT READILY AVAILABLE.

** FLARED END SECTIONS AVAILABLE ONLY FOR THESE SECTIONS.
* THESE SIZES ARE NOT READILY AVAILABLE.

Designed by: JWC
Drawn by: KAP
Checked by: RRC
Previous Des. No. 603-04A

ELLIPTICAL RCP FLARED ENDS

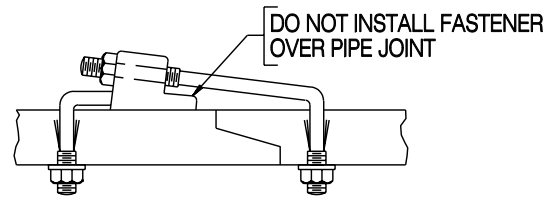
Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.



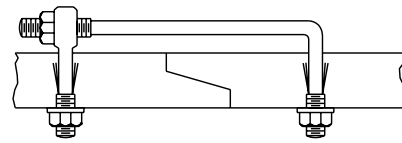
RCP FLARED END SECTIONS

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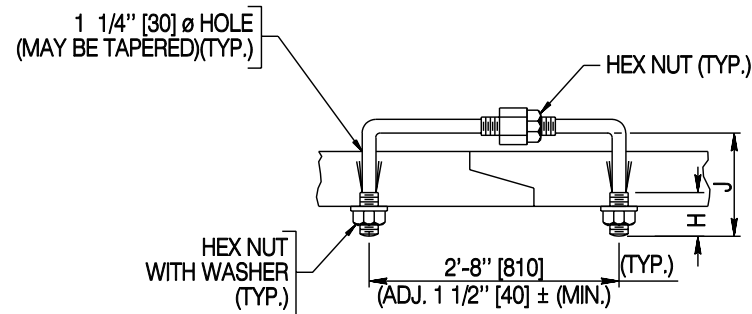


CANOPY TIE



EYE BOLT TIE

TIE BOLT DIMENSIONS				
WALL THICKNESS	H	J	THREAD DIAMETER	ROD DIAMETER
IN				
2 - 3 1/4	3 1/2	4	5/8	9/16
3 1/2 - 4	3 1/2	5 1/2	3/4	11/16
4 1/2 - 5 1/2	3	7	3/4	11/16
6 - 6 1/2	3	8 1/2	3/4	11/16
7 - 8	3	9 1/2	1	29/32
8 1/2 - 9 1/2	3	11	1	29/32
10	3	12	1	29/32



ADJUSTABLE TIE

TIE BOLT DETAILS
(SEE DIMENSION TABLE)

↓ **METRIC TABLE** ↓

TIE BOLT DIMENSIONS				
WALL THICKNESS	H	J	THREAD DIAMETER	ROD DIAMETER
mm				
50 - 85	90	100	16	14
90 - 100	90	140	19	17
115 - 140	75	180	19	17
150 - 165	75	215	19	17
180 - 205	75	240	25	23
215 - 240	75	280	25	23
255	75	305	25	23

Designed by: JWC
 Drawn by: KAP
 Checked by: RRC
 Previous Des. No. 603-03A

TIE BOLT CONNECTION DETAILS

Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.



RCP FLARED END SECTIONS

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