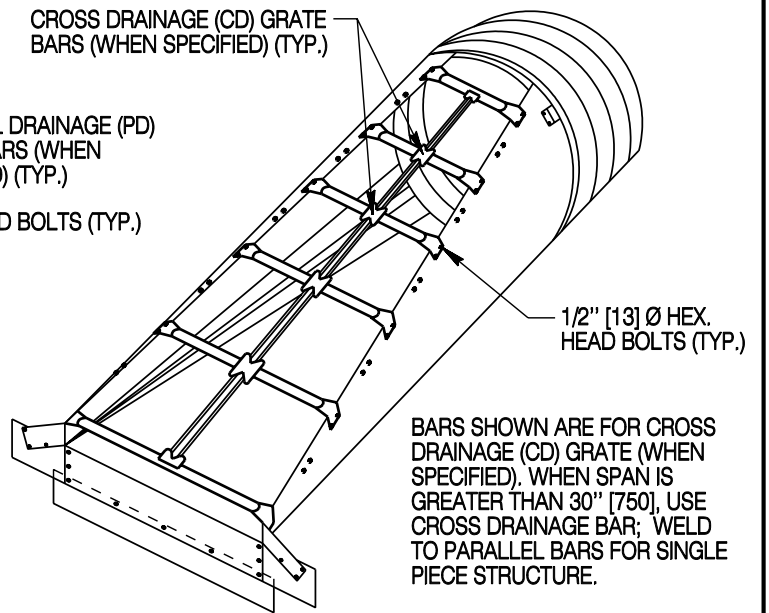
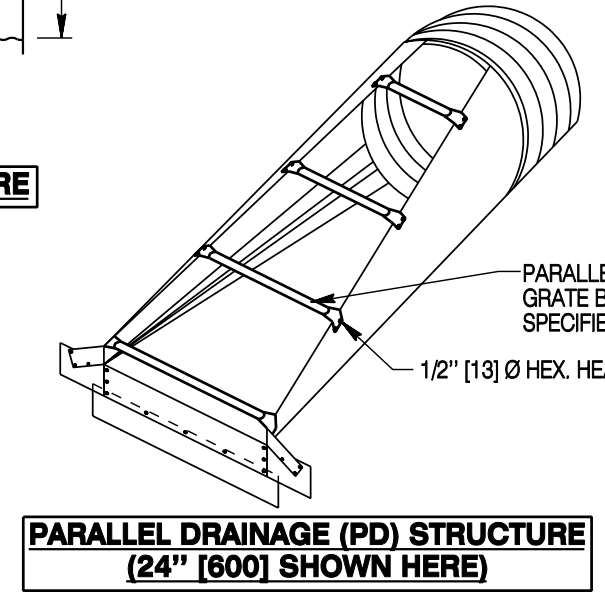
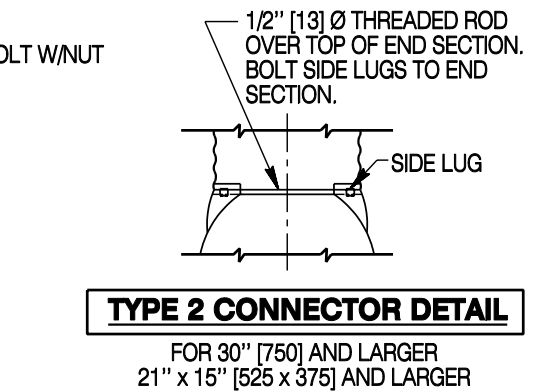
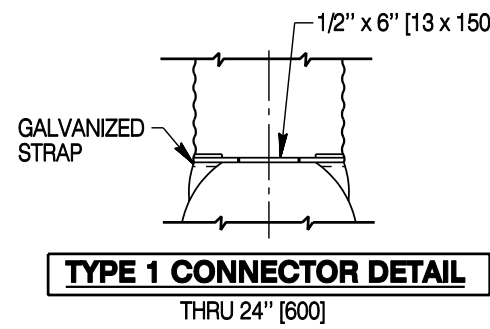
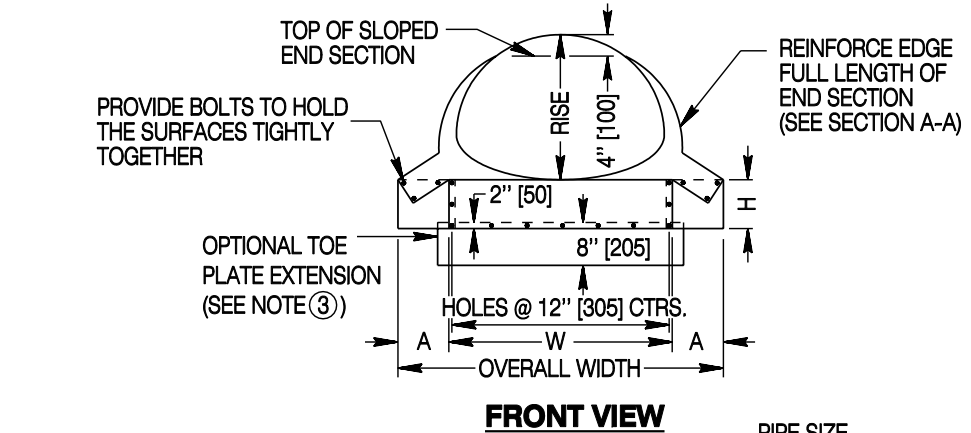


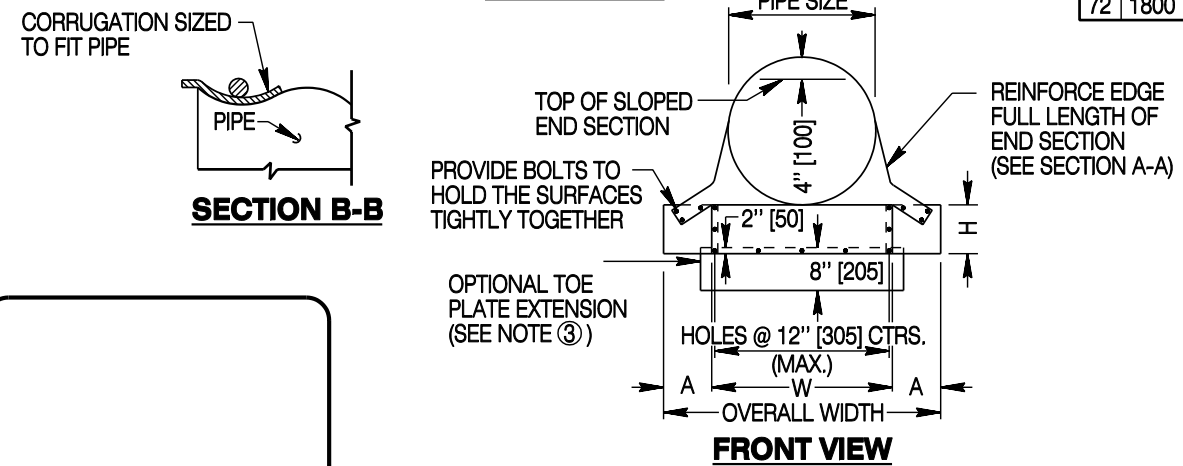
SECTION A-A
(FOR BOTH CROSS DRAINAGE AND PARALLEL DRAINAGE STRUCTURES)



CROSS DRAINAGE (CD) STRUCTURE (48 inch [1200] SHOWN HERE)



FRONT VIEW



FRONT VIEW

STEEL MITERED END SECTIONS FOR ARCHED PIPES

EQUIV. DIA.	SPAN		RISE		MIN. THICK		DIMENSIONS						"L" DIMENSIONS								
	IN	mm	IN	mm	IN	mm	GAGE	mm	IN	mm	IN	mm	IN	mm	IN	mm	SLOPE	LENGTH	SLOPE	LENGTH	
18	450	21	525	15	375	16	1.6	8	205	6	150	27	685	43	1090	1V:4H	20	510	1V:6H	30	760
21	525	24	600	18	450	16	1.6	8	205	6	150	30	760	46	1170	1V:4H	32	815	1V:6H	48	1220
24	600	28	700	20	500	16	1.6	8	205	6	150	34	865	50	1270	1V:4H	40	1015	1V:6H	60	1525
30	750	35	875	24	600	14	2.0	12	305	9	230	40	1015	64	1625	1V:4H	56	1420	1V:6H	84	2135
36	900	42	1050	29	725	12	2.8	12	305	9	230	48	1220	76	1830	1V:4H	76	1930	1V:6H	114	2895
42	1050	49	1225	33	825	12	2.8	16	405	9	230	54	1370	86	2185	1V:4H	92	2335	1V:6H	138	3505
48	1200	57	1425	38	950	12	2.8	16	405	9	230	62	1575	94	2390	1V:4H	112	2845	1V:6H	168	4265
54	1350	64	1600	43	1075	12	2.8	16	405	9	230	70	1780	102	2590	1V:4H	132	3355	1V:6H	198	5030
60	1500	71	1775	47	1175	12	2.8	16	405	9	230	76	1930	108	2743	1V:4H	148	3760	1V:6H	222	5640
72	1800	83	2075	57	1425	12	2.8	16	405	9	230	88	2235	120	3048	1V:4H	188	4775	1V:6H	282	7165

STEEL MITERED END SECTIONS FOR CIRCULAR PIPES

PIPE DIA.	MIN. THICK	DIMENSIONS						"L" DIMENSIONS									
		GAGE	mm	IN	mm	IN	mm	IN	mm	IN	mm	SLOPE	LENGTH	SLOPE	LENGTH		
15	375	16	1.6	8	205	6	150	21	535	37	940	1V:4H	20	510	1V:6H	30	760
18	450	16	1.6	8	205	6	150	24	610	40	1015	1V:4H	32	815	1V:6H	48	1220
21	525	16	1.6	8	205	6	150	28	710	42	1065	1V:4H	44	1120	1V:6H	66	1675
24	600	16	1.6	8	205	6	150	30	760	46	1170	1V:4H	56	1420	1V:6H	84	2135
30	750	12	2.8	12	305	9	230	36	915	60	1525	1V:4H	80	2030	1V:6H	120	3050
36	900	12	2.8	12	305	9	230	42	1065	66	1675	1V:4H	104	2640	1V:6H	156	3960
42	1050	12	2.8	16	405	12	305	48	1220	80	2030	1V:4H	128	3250	1V:6H	192	4875
48	1200	12	2.8	16	405	12	305	54	1370	86	2185	1V:4H	152	3860	1V:6H	228	5790
54	1350	12	2.8	16	405	12	305	60	1525	92	2335	1V:4H	176	4470	1V:6H	264	6705
60	1500	12	2.8	16	405	12	305	66	1675	98	2490	1V:4H	200	5080	1V:6H	300	7620

- GENERAL NOTES**
- Steel Mitered Ends**
Use galvanized steel meeting AASHTO M 218.
 - Grates**
Use schedule 40 galvanized steel pipe for grate bars. Grates will only be required when specified in the bid item. Provide slotted holes for safety grate bar attachment for all end sections.
 - Toe Plate Extensions**
Provide toe plate extensions when specified with the same gage as end section. Dimensions are overall width less 6 in. [150] by 8 in. [205] high.

Designed by: WBW
Drawn by: GLD
Checked by: WBW
Previous Des. No.: NEW

INSTALLATION AND FABRICATION FOR 1V:4H AND 1V:6H SECTIONS (METAL PIPE)

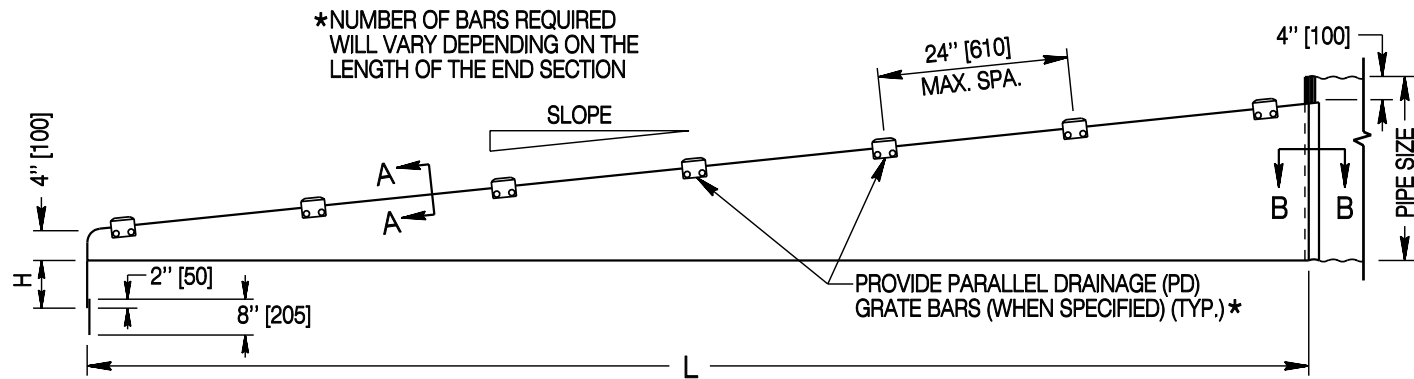
Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.



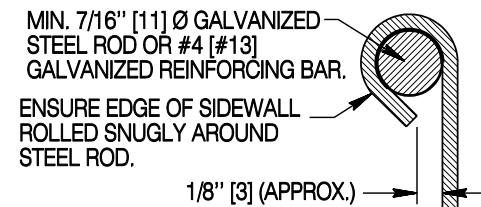
STEEL MITERED END SECTIONS

STANDARD PLAN

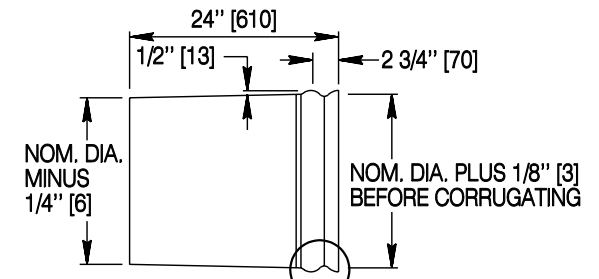
STANDARD PLAN NUMBER
603-4
SHEET 1 of 3
Issued by: ENGINEERING SERVICES
Date Issued: NOVEMBER, 2004
FILE: j:\StanDual_Std_Wrk6034_01.dgn



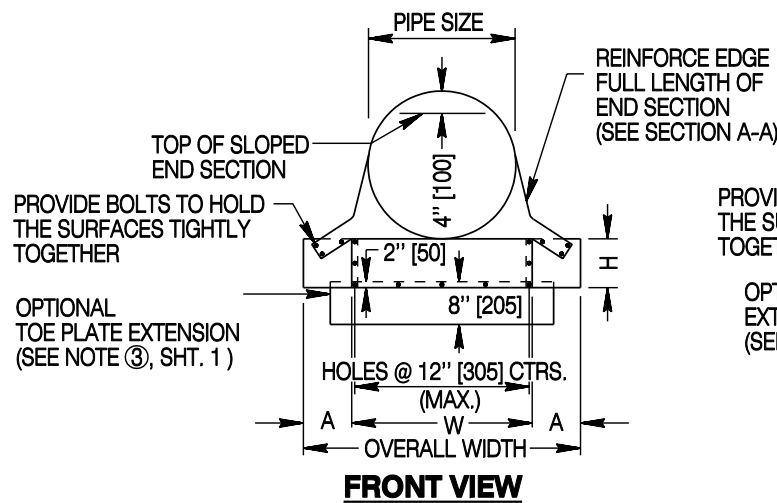
SIDE ELEVATION OF PARALLEL DRAINAGE (PD) STRUCTURE



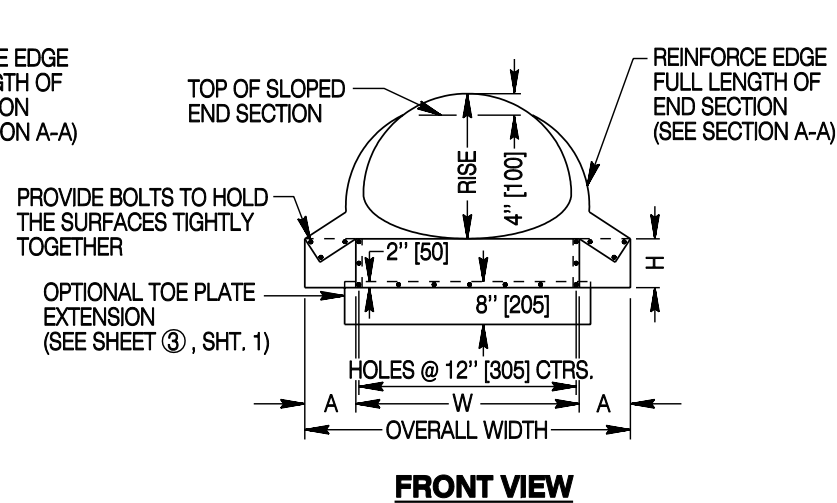
SECTION A-A
(FOR BOTH CROSS DRAINAGE AND PARALLEL DRAINAGE STRUCTURES)



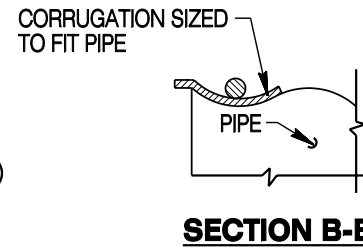
SMOOTH TAPERED SLEEVE DETAIL



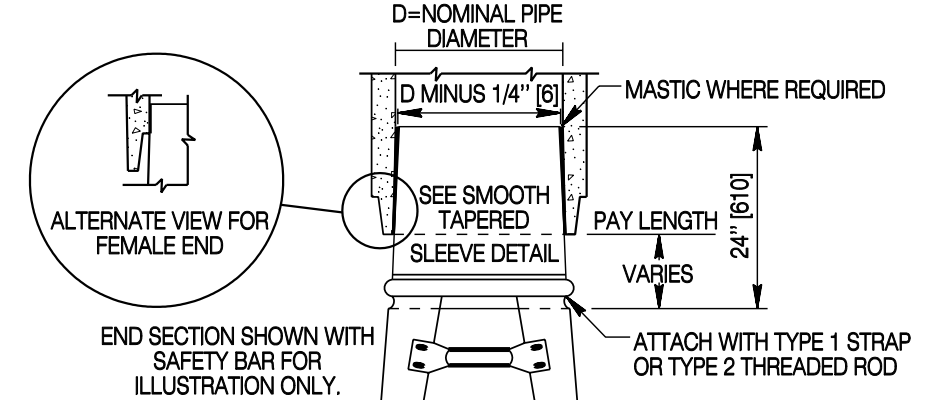
FRONT VIEW



FRONT VIEW



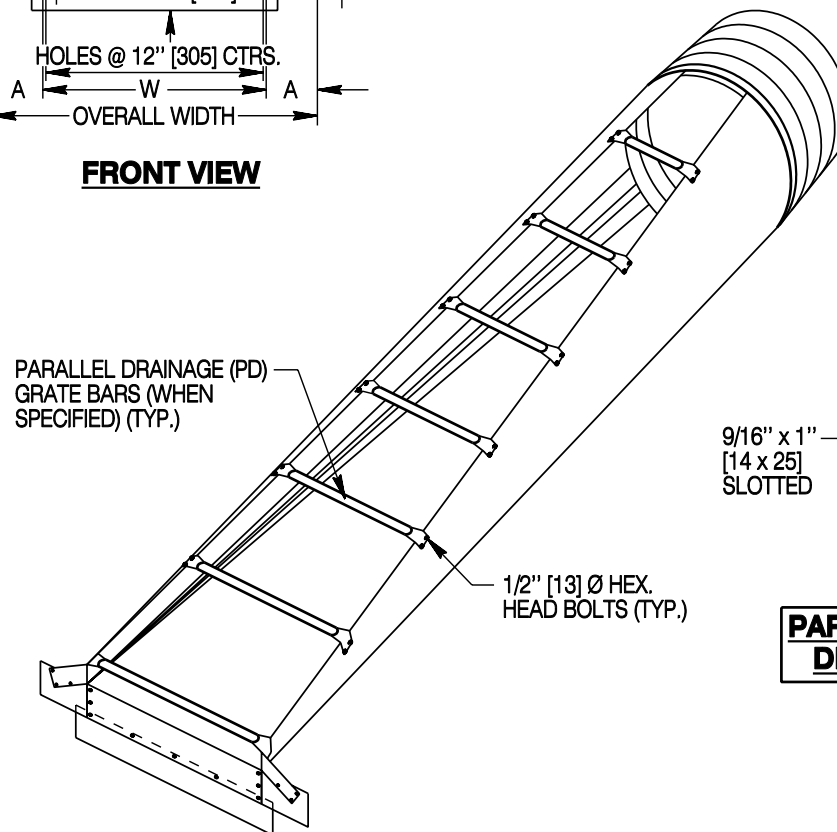
SECTION B-B



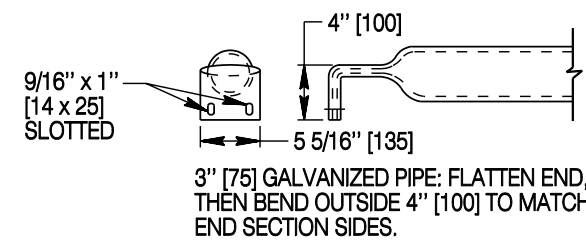
TAPERED SLEEVE FOR ATTACHING STEEL END SECTIONS TO CONCRETE PIPE

STEEL MITERED END SECTIONS FOR ARCHED PIPES																		
EQUIV. DIA.	SPAN	RISE	MIN. THICK	DIMENSIONS								"L" DIMENSIONS						
				A	H	W	OVERALL WIDTH	SLOPE	LENGTH									
18	450	21	525	15	375	12	2.8	8	205	6	150	27	685	43	1090	1V:10H	70	1780
21	525	24	600	18	450	12	2.8	8	205	6	150	30	760	46	1070	1V:10H	100	2540
24	600	28	700	20	500	12	2.8	8	205	6	150	34	865	50	1270	1V:10H	120	3050
30	750	35	875	24	600	12	2.8	12	305	9	230	40	1015	65	1650	1V:10H	160	4065
36	900	42	1050	29	725	12	2.8	12	305	9	230	48	1220	72	1830	1V:10H	210	5335

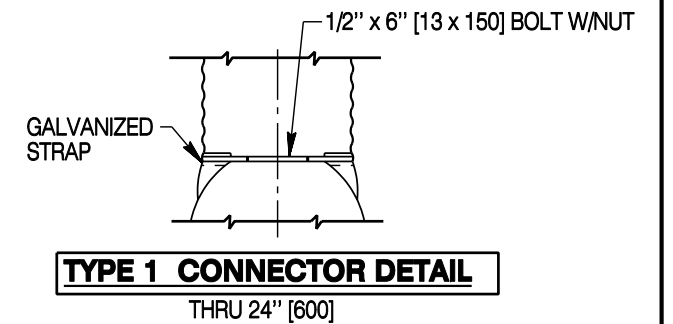
STEEL MITERED END SECTIONS FOR CIRCULAR PIPES														
PIPE DIA.	MIN. THICK	DIMENSIONS								"L" DIMENSIONS				
		A	H	W	OVERALL WIDTH	SLOPE	LENGTH							
15	375	12	2.8	8	205	6	150	21	535	37	940	1V:10H	70	1780
18	450	12	2.8	8	205	6	150	24	610	40	1015	1V:10H	100	2540
21	525	12	2.8	8	205	6	150	27	690	43	1090	1V:10H	130	3300
24	600	12	2.8	8	205	6	150	30	760	46	1170	1V:10H	160	4065
30	750	12	2.8	12	305	9	230	36	915	60	1525	1V:10H	220	5590
36	900	12	2.8	12	305	9	230	42	1065	66	1675	1V:10H	280	7110



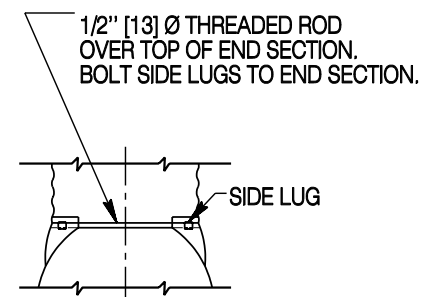
PARALLEL DRAINAGE (PD) STRUCTURE (24\" [600] SHOWN HERE)



PARALLEL DRAINAGE (PD) BARS DETAIL OF (PD) GRATE BARS (WHEN GRATES ARE SPECIFIED)



TYPE 1 CONNECTOR DETAIL



TYPE 2 CONNECTOR DETAIL

Designed by: WBW
Drawn by: GLD
Checked by: WBW
Previous Dwg. No. NEW

INSTALLATION AND FABRICATION FOR 1V:10H SECTIONS (METAL AND CONCRETE PIPE)

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



WYOMING DEPARTMENT OF TRANSPORTATION

STEEL MITERED END SECTIONS

STANDARD PLAN

STANDARD PLAN NUMBER

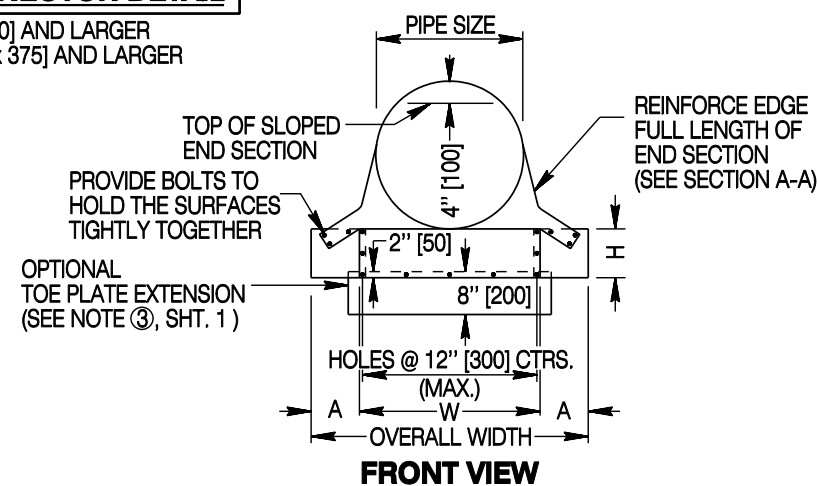
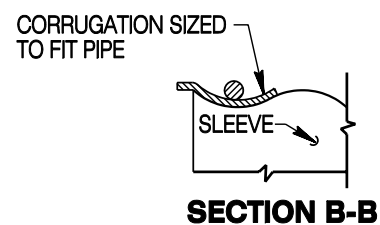
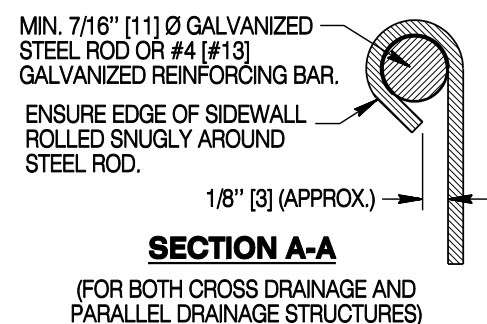
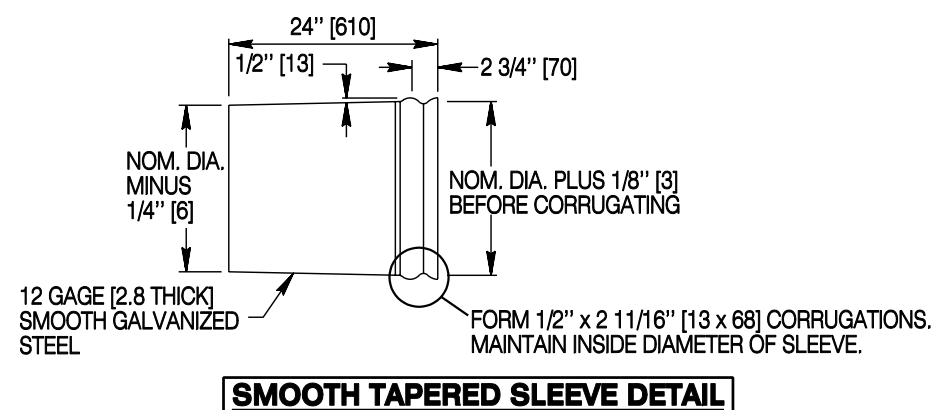
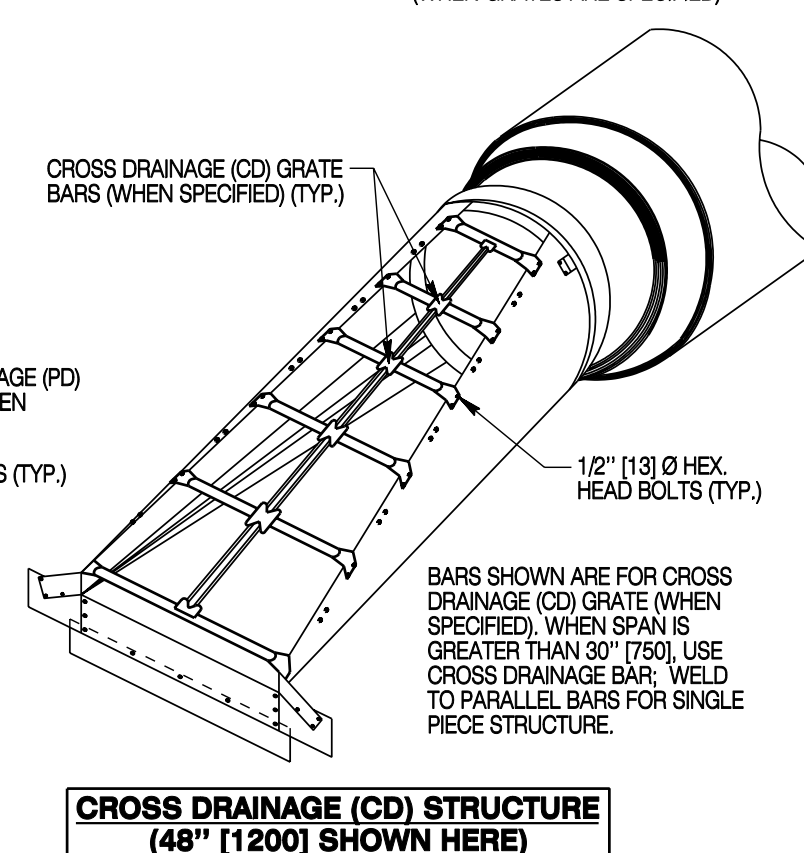
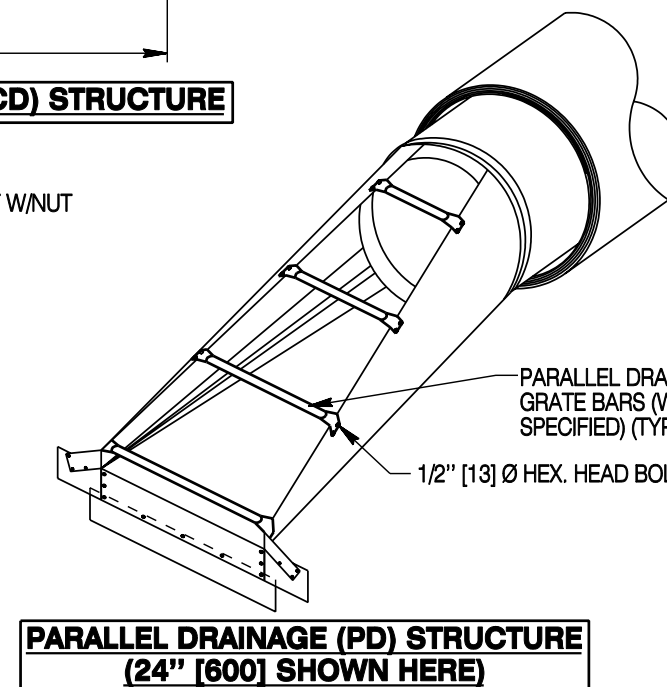
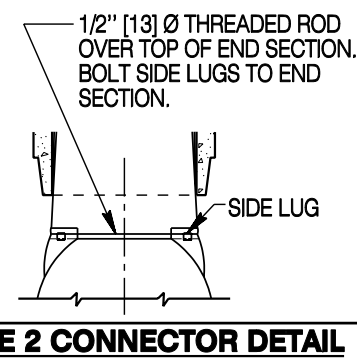
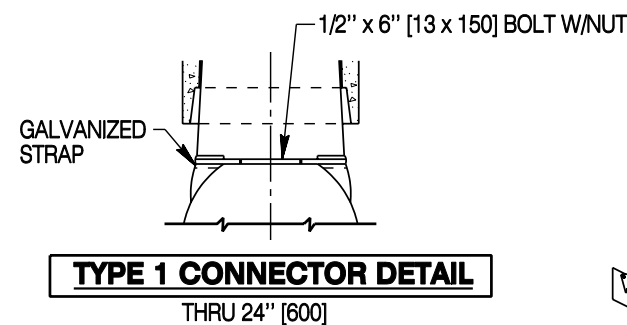
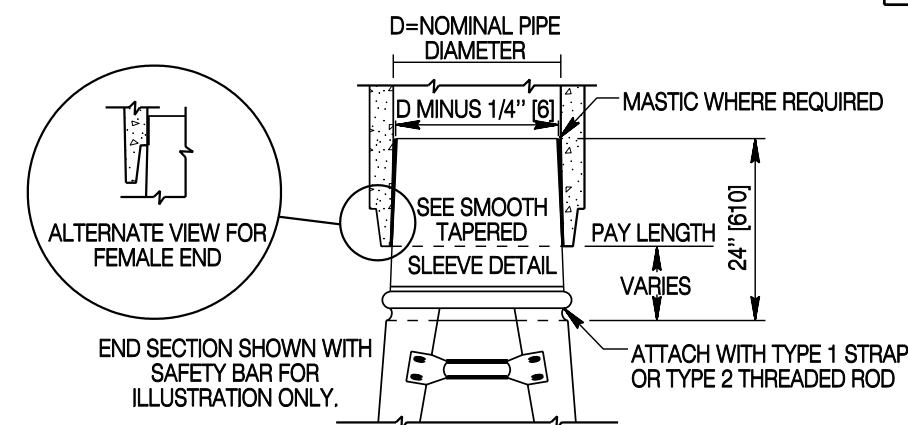
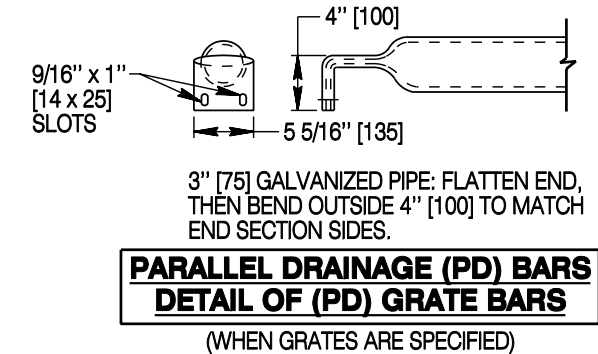
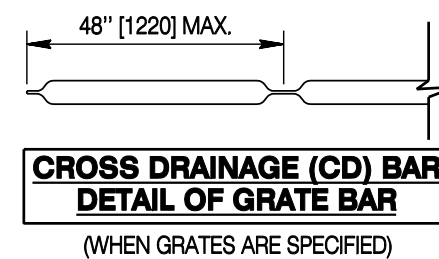
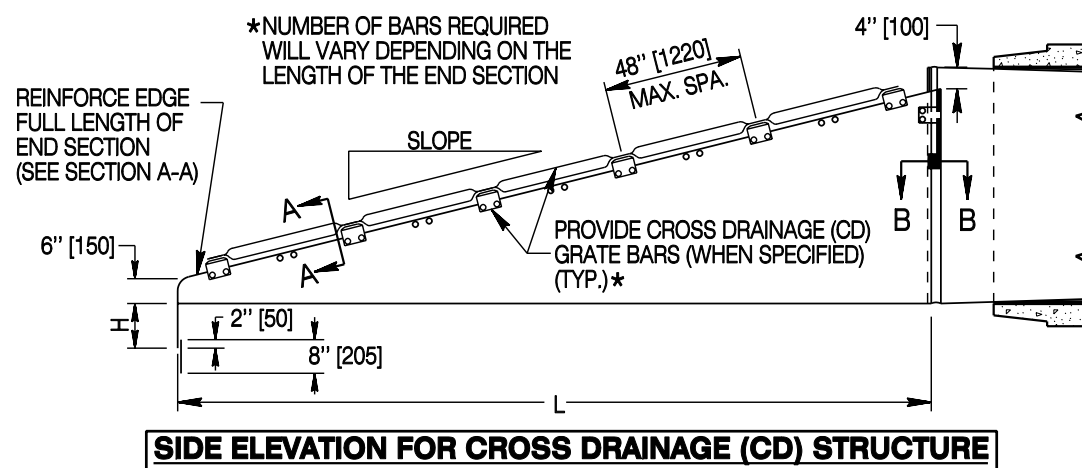
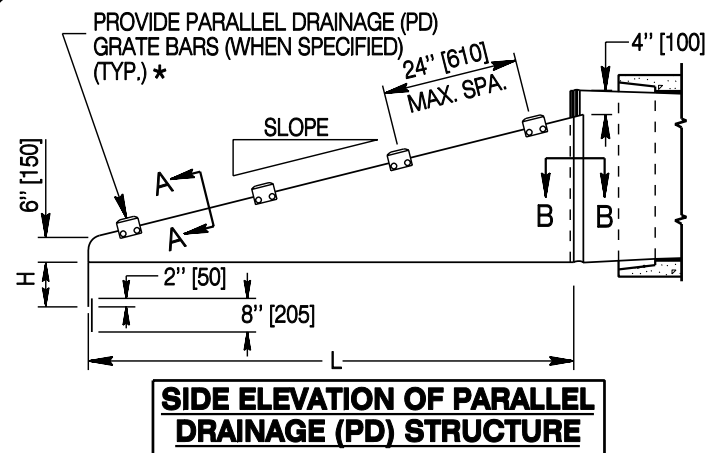
603-4

SHEET 2 of 3

Issued by: ENGINEERING SERVICES

Date Issued: NOVEMBER, 2004

FILE: j:\StanDual Std_Wrk6034_02.dgn



STEEL MITERED END SECTIONS FOR CONCRETE CIRCULAR PIPES																	
PIPE DIA.	MIN. THICK	DIMENSIONS									"L" DIMENSIONS						
		GAGE	A	H	W	OVERALL WIDTH	SLOPE	LENGTH	SLOPE	LENGTH							
15	375	16	1.6	8	205	6	150	21	535	37	940	1V:4H	20	510	1V:6H	30	760
18	450	16	1.6	8	205	6	150	24	610	40	1015	1V:4H	32	815	1V:6H	48	1220
21	525	16	1.6	8	205	6	150	28	710	42	1065	1V:4H	44	1120	1V:6H	66	1675
24	600	16	1.6	8	205	6	150	30	760	46	1170	1V:4H	56	1420	1V:6H	84	2135
30	750	12	2.8	12	305	9	230	36	915	60	1525	1V:4H	80	2030	1V:6H	120	3050
36	900	12	2.8	12	305	9	230	42	1065	66	1675	1V:4H	104	2640	1V:6H	156	3960
42	1050	12	2.8	16	405	12	305	48	1220	80	2030	1V:4H	128	3250	1V:6H	192	4875
48	1200	12	2.8	16	405	12	305	54	1370	86	2185	1V:4H	152	3860	1V:6H	228	5790
54	1350	12	2.8	16	405	12	305	60	1525	92	2335	1V:4H	176	4470	1V:6H	264	6705
60	1500	12	2.8	16	405	12	305	66	1675	98	2490	1V:4H	200	5080	1V:6H	300	7620

Designed by: W/BW
 Drawn by: G/LD
 Checked by: W/BW
 Previous Dwg. No. NEW

INSTALLATION AND FABRICATION FOR 1V:4H AND 1V:6H SECTIONS (CONCRETE PIPE)

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



WYOMING DEPARTMENT OF TRANSPORTATION



STEEL MITERED END SECTIONS

STANDARD PLAN

STANDARD PLAN NUMBER

603-4

SHEET 3 of 3

Issued by: ENGINEERING SERVICES

Date Issued: NOVEMBER, 2004

FILE: j:\StanDual_Std_Wrk6034_03.dgn