

4:1 SLOPE								
PIPE SIZE	H	L	W	S	GRATE C		GRATE B	
					No.	LENGTH	LENGTH	
430 x 330	460	1830	610	1850	1	1120	310	
530 x 380	510	2030	610	2060	1	1220	410	
610 x 460	580	2340	920	2370	2	810	310	
710 x 510	640	2540	920	2570	2	920	310	
885 x 610	740	2940	1220	2970	3	710	410	
1060 x 740	860	3450	1220	3480	5	610	-	
1240 x 840	970	3860	1520	3890	5	610	410	
1440 x 970	1100	4370	1520	4400	6	610	310	
1620 x 1100	1220	4880	1830	5010	9	510	-	
1800 x 1200	1320	5280	1830	5410	9	510	410	

10:1 SLOPE								
PIPE SIZE	H	L	W	S	GRATE C		GRATE B	
					No.	LENGTH	LENGTH	
430 x 330	460	4570	610	4500	2	1220	1020	
530 x 380	510	5080	610	5010	3	1220	310	
610 x 460	580	5840	920	5820	5	810	710	
710 x 510	640	6350	920	6330	5	920	710	
885 x 610	740	7370	1220	7340	8	710	610	
1060 x 740	860	8640	1220	8560	10	710	410	
1240 x 840	970	9650	1520	9680	17	510	-	
1440 x 970	1100	10920	1520	10900	23	410	510	
1620 x 1100	1220	12190	1830	12220	22	510	-	
1800 x 1200	1320	13210	1830	13240	24	510	-	

6:1 SLOPE								
PIPE SIZE	H	L	W	S	GRATE C		GRATE B	
					No.	LENGTH	LENGTH	
430 x 330	460	2740	610	2670	1	1220	810	
530 x 380	510	3050	610	2970	1	1220	1120	
610 x 460	580	3500	920	3480	3	810	410	
710 x 510	640	3810	920	3790	3	920	410	
885 x 610	740	4420	1220	4400	5	610	710	
1060 x 740	860	5180	1220	5210	7	610	310	
1240 x 840	970	5790	1520	5820	8	610	310	
1440 x 970	1100	6550	1520	6530	9	610	410	
1620 x 1100	1220	7320	1830	7340	12	510	610	
1800 x 1200	1320	7930	1830	7950	18	410	-	

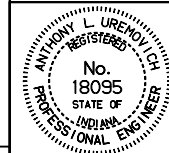
APPROXIMATE QUANTITIES									
PIPE Size	4:1 SLOPE			6:1 SLOPE			10:1 SLOPE		
	Str. Steel, kg	Conc., m <sup>3</sup>	Reinf. Steel, kg	Str. Steel, kg	Conc., m <sup>3</sup>	Reinf. Steel, kg	Str. Steel, kg	Conc., m <sup>3</sup>	Reinf. Steel, kg
430 x 330	160	.91	140	225	1.2	188	370	1.9	290
530 x 380	180	1.0	150	240	1.4	210	410	2.1	320
610 x 460	270	1.4	200	400	1.9	280	660	3.0	420
710 x 510	290	1.5	210	430	2.1	290	700	3.2	460
885 x 610	440	2.1	280	650	2.8	390	1080	4.4	600
1060 x 740	520	2.4	320	780	3.4	450	1250	5.3	710
1240 x 840	690	3.1	400	1030	4.3	560	1740	6.8	890
1440 x 970	780	3.4	450	1150	4.9	640	2000	7.8	1020
1620 x 1100	1040	4.4	550	1520	6.2	600	2520	9.9	1250
1800 x 1200	1120	4.7	590	1690	6.8	780	2720	10.9	1370

All dimensions are in mm unless otherwise specified.

INDIANA DEPARTMENT OF TRANSPORTATION  
**GRADED BOX END SECTION TYPE II**  
**DIMENSIONS AND QUANTITIES**

JANUARY 1999

STANDARD DRAWING NO. 715-GBTT-06



/s/ Anthony L. Uremovich 1-04-99  
 DESIGN STANDARDS ENGINEER DATE

/s/ Donald W. Lucas 1-04-99  
 CHIEF HIGHWAY ENGINEER DATE

Source Sheet: GBES 4

DESIGN STANDARDS ENGINEER