4:1 Slope							
Pipe Diameter	H	L	W	S	Grate C		Grate B
					NO.	Length	Length
300	430	1730	610	1750	1	1020	310
375 or 450	610	2440	610	2460	1	1220	810
525 or 600	760	3050	920	3070	2	920	810
675 or 750	940	3760	920	3790	3	920	610
825 or 900	1100	4370	1220	4400	5	710	410
1050	1270	5030	1220	5210	6	710	510
1200	1420	5690	1520	5820	8	610	510
1350	1600	6400	1830	6530	12	510	–
1500	1750	7010	1830	7140	12	510	610

10:1 Slope							
Pipe Diameter	H	L	W	S	Grate C		Grate B
					No.	Length	Length
300	430	4320	610	4290	2	1220	810
375 or 450	610	6100	610	6020	4	1120	510
525 or 600	760	7620	920	7540	8	810	–
675 or 750	940	9400	920	9270	9	920	–
825 or 900	1100	10920	1220	10900	13	710	610
1050	1270	12700	1220	12730	16	710	310
1200	1420	14220	1520	14250	21	610	410
1350	1600	16000	1830	15980	36	410	310
1500	1750	17530	1830	17600	40	410	310

6:1 Slope							
Pipe Diameter	H	L	W	S	Grate C		Grate B
					No.	Length	Length
300	430	2590	610	2570	1	1220	710
375 or 450	610	3660	610	3580	2	1220	510
525 or 600	760	4570	920	4600	4	920	310
675 or 750	940	5640	920	5610	5	920	410
825 or 900	1100	6550	1220	6530	9	610	410
1050	1270	7620	1220	7650	9	710	610
1200	1420	8530	1520	8560	13	610	–
1350	1600	9600	1830	9680	17	510	410
1500	1750	10520	1830	10590	19	510	310

GRATE A DIMENSIONS TABLE									
Slope	A	B	P	b	c	d	E	F	GA
4:1	320	310	610	200	250	100	320	250	640
6:1	460	460	920	310	460	150	470	460	950
10:1	760	760	1520	510	860	250	780	860	1550

APPROXIMATE QUANTITIES												
Pipe Diameter	4:1 Slope				6:1 Slope				10:1 Slope			
	Conc., m^3		Reinf. Steel, kg	Str. Steel, kg	Conc., m^3		Reinf. Steel, kg	Str. Steel, kg	Conc., m^3		Reinf. Steel, kg	Str. Steel, kg
	Conc. Pipe	C.M. Pipe			Conc. Pipe	Conc. Pipe			Conc. Pipe	C.M. Pipe		
300	0.8	0.8	134	150	1.1	1.1	180	220	1.8	1.8	270	360
375 or 450	1.2	1.2	180	200	1.7	1.7	250	290	2.6	2.6	390	490
525 or 600	1.8	1.8	256	340	2.5	2.5	360	510	4.0	4.0	570	830
675 or 750	2.2	2.3	315	410	3.2	3.3	450	610	5.0	5.1	720	1000
825 or 900	3.0	3.1	413	640	4.4	4.4	590	960	7.0	7.0	940	1570
1050	3.7	3.7	492	750	5.3	5.4	700	1100	8.4	8.6	1130	1820
1200	4.7	4.8	612	1010	6.7	6.9	875	1480	10.9	11.0	1410	2460
1350	6.0	6.1	755	1340	8.6	8.7	1090	1980	13.8	14.0	1750	3380
1500	6.7	6.8	840	1460	9.6	9.8	1220	2170	15.6	15.7	1960	3710

Source Sheet: GBES 3

All dimensions are in mm unless otherwise specified.

INDIANA DEPARTMENT OF TRANSPORTATION

GRATED BOX END SECTION
DIMENSIONS & QUANTITIES TYPE II

JANUARY 1999

STANDARD DRAWING NO. 715–GBTT–05

ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

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

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