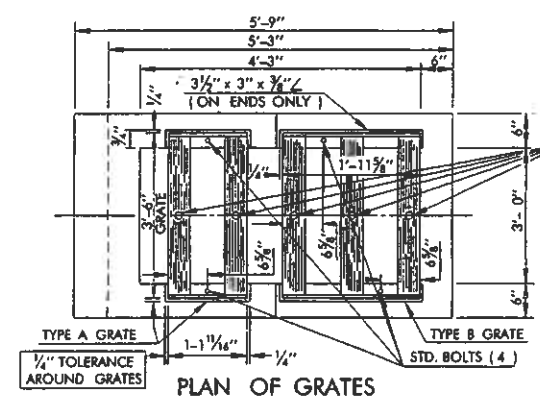
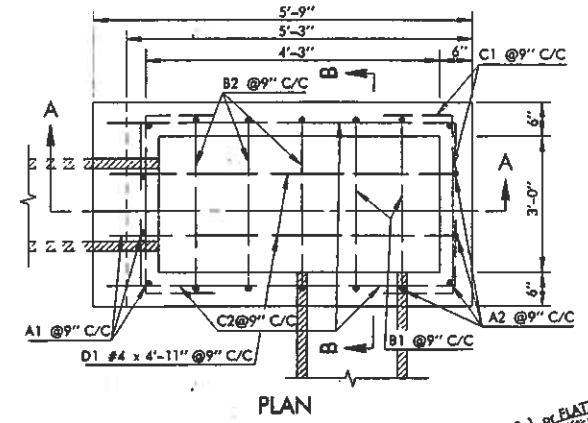
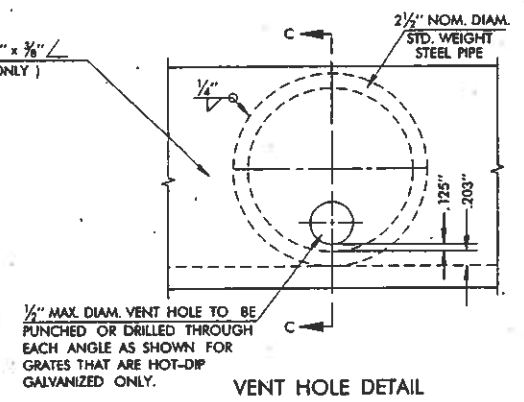
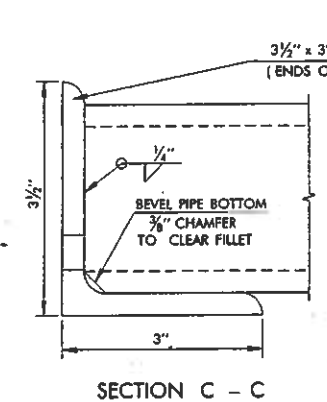
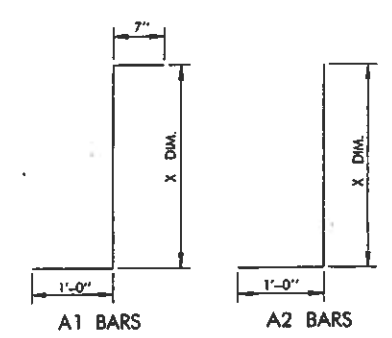
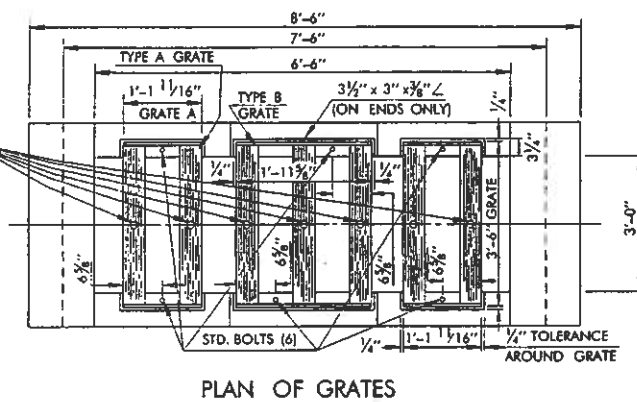


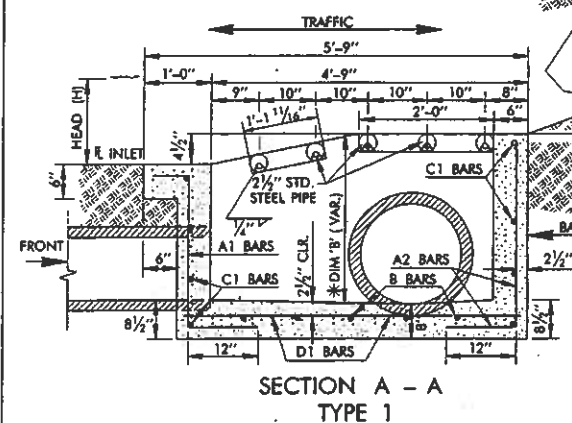
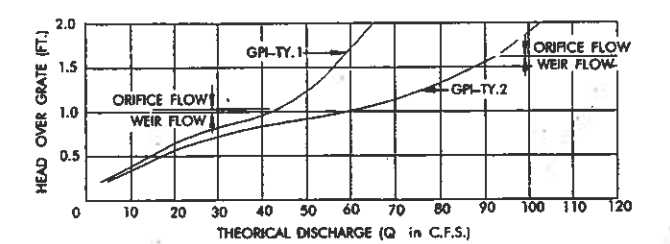
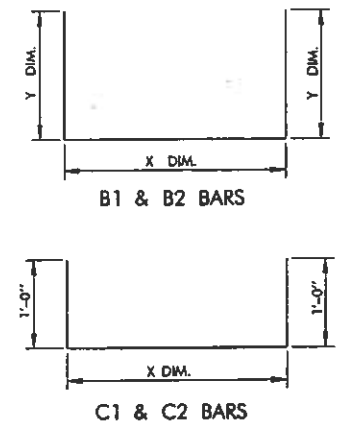
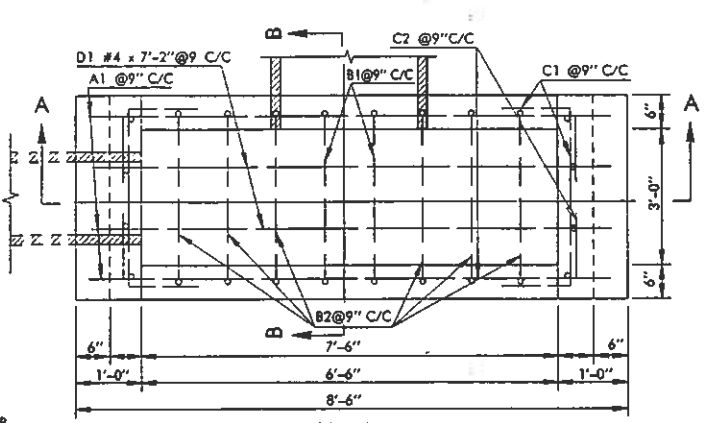
DESCRIPTION	REVISIONS	DATE
RE-ISSUE W/ENGLISH 1999 SPECS.		7/99



1/4" DIA. (MAX.) DRAIN HOLES TO BE PUNCHED OR DRILLED THROUGH BOTTOM SIDE OF STEEL PIPE AT THE MID POINT, AS SHOWN FOR GRATES THAT ARE HOT-DIPPED GALVANIZED ONLY.

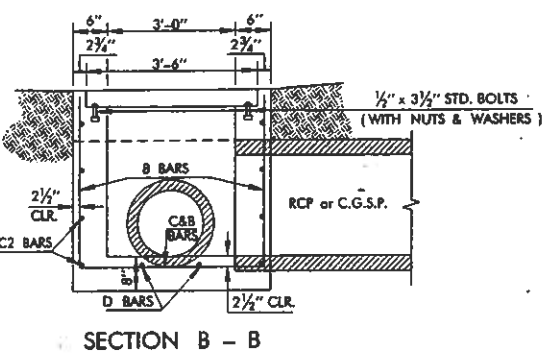
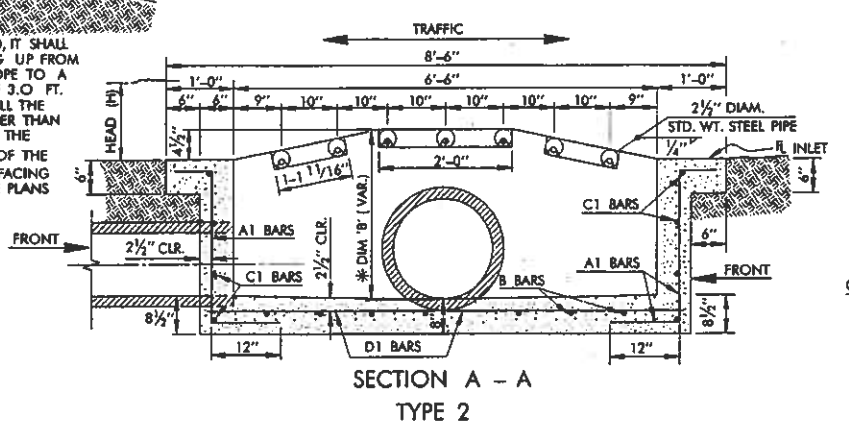


NOTE: REINF. STEEL TO BE CUT AND/OR BENT TO CLEAR PIPE IN FIELD.



20:1 or FLATTER
12'-0" ROUNDED
3'-0" DESIRED
20:1 or FLATTER

WHEN A DIKE SECTION IS REQUIRED, IT SHALL BE CONSTRUCTED SLOPING UP FROM THE INLET IN A 20:1 SLOPE TO A DESIRABLE LENGTH OF 3.0 FT. IN NO CASE SHALL THE DIKE TOP BE HIGHER THAN 6 INCHES BELOW THE FINISHED GRADE OF THE INNER EDGE OF SURFACING AS SHOWN ON THE PLANS & PROFILE SHEET.



- GENERAL NOTES**
- ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 1999 ENGLISH STANDARD SPECIFICATIONS.
 - EXPOSED CONCRETE EDGES SHALL HAVE A 3/4" CHAMFER, OR AN APPROVED ROUNDED EDGING. ALL EXPOSED SURFACES SHALL BE FINISHED IN ACCORDANCE WITH SECTION 509 OF THE 1999 ENGLISH STANDARD SPECIFICATIONS.
 - VENT HOLES AND DRAIN HOLES FOR HOT-DIP GALVANIZATION SHALL BE DRILLED OR PUNCHED IN THE GRATE AS SHOWN.
 - ALL REINFORCING STEEL SHALL BE DEFORMED BARS.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
611.06 (E)	INLET ■	EA.
611.06 (F)	ADDITIONAL DEPTH IN INLET ■	V.F.

■ TYPE OF GRATED PIPE INLET SHALL BE SPECIFIED.

DESIGN NO.	PIPE SIZE	* MIN. DIM. "B"	CLASS A CONC.	REINF. STEEL	CONC. PER ADD'L FT. DEPTH	REINF. STEEL PER ADD'L FT. DEPTH	"A1" BARS BENT #4 AT 9" C/C		"A2" BARS BENT #4 AT 9" C/C		"B1" BARS BENT #4 AT 9" C/C		"B2" BARS BENT #4 AT 9" C/C		"C1" BARS BENT #4 AT 9" C/C		"C2" BARS BENT #4 AT 9" C/C		"D1" BARS STRT. #4 AT 9" C/C										
							NO	LGTH	X DIM.	NO	LGTH	X DIM.	NO	LGTH	X DIM.	Y DIM.	NO	LGTH	X DIM.	Y DIM.	NO	LGTH	X DIM.	NO	LGTH				
TYPE 1 PIPE AT SIDES OR BACK	1	24"	3'-1 1/4"	1.89	204.	.31	36.5	6	4'-5"	2'-10"	6	4'-3"	3'-3"	2	10'-1"	3'-7"	3'-3"	3	9'-7" Avg.	3'-7"	2'-10" to 3'-2"	10	5'-6"	3'-6"	10	6'-9"	4'-9"	4	4'-11"
	2	30"	3'-7 3/4"	1.52	174.	.31	36.5	6	5'-0"	3'-5"	6	4'-9"	3'-9"	2	11'-1"	3'-7"	3'-9"	3	10'-7" Avg.	3'-7"	3'-4" to 3'-8"	11	5'-6"	3'-6"	10	6'-9"	4'-9"	4	4'-11"
	3	36"	4'-2 1/4"	1.63	198.	.31	36.5	6	5'-6"	3'-11"	6	5'-4"	4'-4"	2	12'-3"	3'-7"	4'-4"	3	11'-9" Avg.	3'-7"	3'-11" to 4'-3"	13	5'-6"	3'-6"	12	6'-9"	4'-9"	4	4'-11"
	4	42"	4'-8 3/4"	1.73	219.	.31	36.5	6	6'-1"	4'-6"	6	5'-10"	4'-10"	2	13'-3"	3'-7"	4'-10"	3	12'-9" Avg.	3'-7"	4'-5" to 4'-9"	14	5'-6"	3'-6"	14	6'-9"	4'-9"	4	4'-11"
	5	18" or 24"	3'-7 3/4"	1.57	174.	.31	36.5	6	5'-0"	3'-5"	6	4'-9"	3'-9"	2	11'-1"	3'-7"	3'-9"	3	10'-7" Avg.	3'-7"	3'-4" to 3'-8"	11	5'-6"	3'-6"	10	6'-9"	4'-9"	4	4'-11"
	6	30"	4'-2 1/4"	1.69	198.	.31	36.5	6	5'-6"	3'-11"	6	5'-4"	4'-4"	2	12'-3"	3'-7"	4'-4"	3	11'-9" Avg.	3'-7"	3'-11" to 4'-3"	13	5'-6"	3'-6"	12	6'-9"	4'-9"	4	4'-11"
	7	36"	4'-8 3/4"	1.79	219.	.31	36.5	6	6'-1"	4'-6"	6	5'-10"	4'-10"	2	13'-3"	3'-7"	4'-10"	3	12'-9" Avg.	3'-7"	4'-5" to 4'-9"	14	5'-6"	3'-6"	14	6'-9"	4'-9"	4	4'-11"
TYPE 2 PIPE AT FRONT SIDES	8	24"	3'-1 1/4"	1.89	204.	.39	44.5	12	4'-5"	2'-10"				2	10'-1"	3'-7"	3'-3"	6	9'-7" Avg.	3'-7"	2'-10" to 3'-2"	10	5'-6"	3'-6"	10	9'-0"	7'-0"	4	7'-2"
	9	30"	3'-7 3/4"	2.05	213.	.39	44.5	12	5'-0"	3'-5"				2	11'-1"	3'-7"	3'-9"	6	10'-7" Avg.	3'-7"	3'-4" to 3'-8"	10	5'-6"	3'-6"	10	9'-0"	7'-0"	4	7'-2"
	10	36"	4'-2 1/4"	2.21	243.	.39	44.5	12	5'-6"	3'-11"				2	12'-3"	3'-7"	4'-4"	6	11'-9" Avg.	3'-7"	3'-11" to 4'-3"	12	5'-6"	3'-6"	12	9'-0"	7'-0"	4	7'-2"
	11	42"	4'-8 3/4"	2.35	272.	.39	44.5	12	6'-1"	4'-6"				2	13'-3"	3'-7"	4'-10"	6	12'-9" Avg.	3'-7"	4'-5" to 4'-9"	14	5'-6"	3'-6"	14	9'-0"	7'-0"	4	7'-2"
	11A	48"	5'-3 1/4"	2.51	302.	.39	44.5	12	6'-7"	5'-0"				2	14'-3"	3'-7"	5'-4"	6	13'-9" Avg.	3'-7"	5'-0" to 5'-4"	16	5'-6"	3'-6"	16	9'-0"	7'-0"	4	7'-2"
	12	18" or 24"	3'-7 3/4"	2.10	213.	.39	44.5	12	5'-0"	3'-5"				2	11'-1"	3'-7"	3'-9"	6	10'-7" Avg.	3'-7"	3'-4" to 3'-8"	10	5'-6"	3'-6"	10	9'-0"	7'-0"	4	7'-2"
	13	30"	4'-2 1/4"	2.26	243.	.39	44.5	12	5'-6"	3'-11"				2	12'-3"	3'-7"	4'-4"	6	11'-9" Avg.	3'-7"	3'-11" to 4'-3"	12	5'-6"	3'-6"	12	9'-0"	7'-0"	4	7'-2"
14	36"	4'-8 3/4"	2.42	272.	.39	44.5	12	6'-1"	4'-6"				2	13'-3"	3'-7"	4'-10"	6	12'-9" Avg.	3'-7"	4'-5" to 4'-9"	14	5'-6"	3'-6"	14	9'-0"	7'-0"	4	7'-2"	

APPROVED BY ROADWAY ENGINEER *C.M. Sankowski* DATE 9/1/99

OKLAHOMA DEPT. OF TRANSPORTATION
ROADWAY STANDARD (ENGLISH)

GRATED PIPE INLET
(18" - 42" PIPE)

1999 SPECIFICATIONS GPL-3 OOE
R-77E