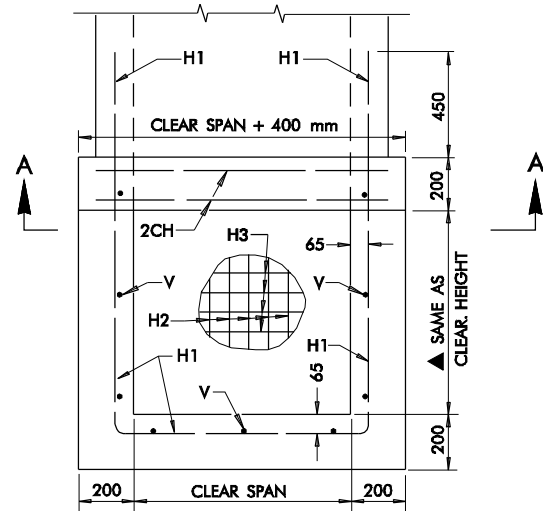
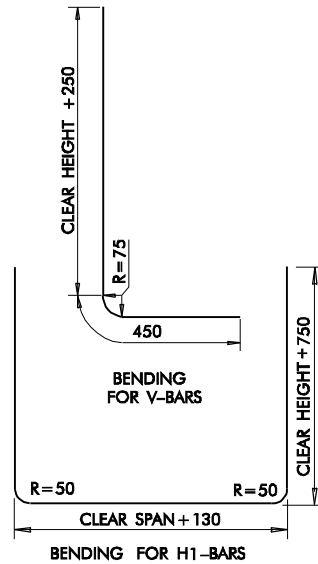
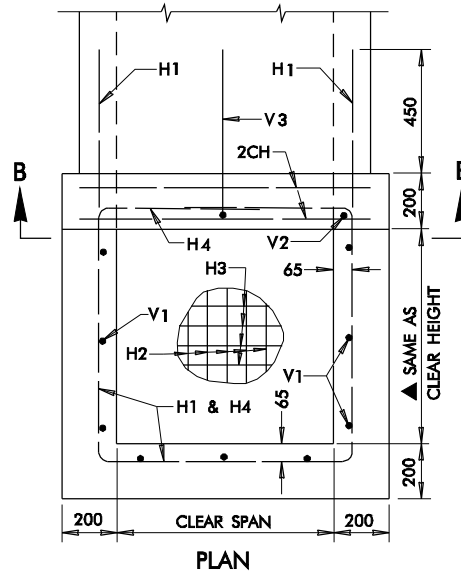




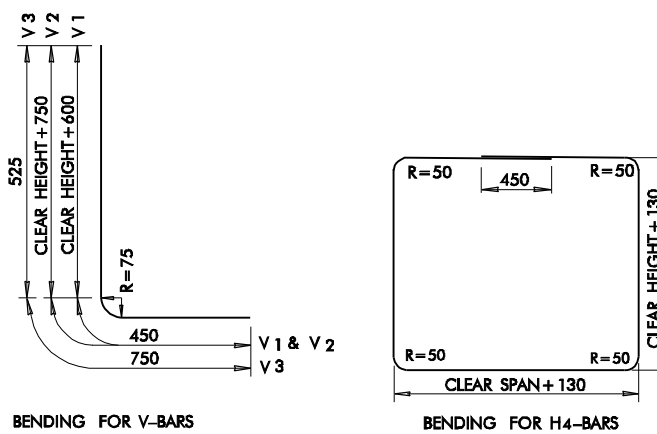
PLAN



BENDING FOR H1-BARS

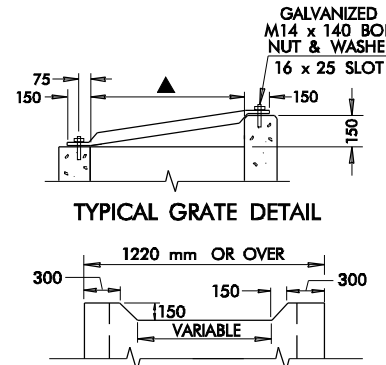


PLAN



BENDING FOR V-BARS

BENDING FOR H4-BARS



TYPICAL GRATE DETAIL

BUILD NOTCH AS SHOWN ON ALL DROP INLETS WHERE STRUCTURE SPAN IS 1220 mm OR MORE. NOTCHES TO BE PLACED IN LINE OF FLOW AS DIRECTED BY THE ENGINEER.

FLOW NOTCH DETAIL

GENERAL NOTES

- ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 1999 METRIC STANDARD SPECIFICATIONS.
- ALL EXPOSED CONCRETE EDGES SHALL HAVE 20 mm CHAMFER.
- ALL REINFORCING STEEL SHALL BE #13M. ALL HORIZONTAL BARS SHALL BE SPACED 150 mm CENTERS, EXCEPT AS SHOWN FOR 1500 x 600 TO 1800 x 1800 EXTRA DEPTH DROP INLETS.
- VERTICAL BARS ARE TIE BARS SPACED AS SHOWN.
- MAXIMUM DEPTH OF EXTRA DEPTH DROP INLETS FOR 2000 mm CLEAR SPAN SHALL BE 5000 mm.
- TOTAL QUANTITIES AS SHOWN IN TABLE FOR EXTRA DEPTH DROP INLETS ARE FIGURED TO AN ELEVATION 300 mm ABOVE TOP OF CULVERT SLAB AND INCLUDED CURB. FOR DROP INLETS OF GREATER DEPTH, MULTIPLY THE FIGURE IN THE PER METER COLUMN BY THE HEIGHT FROM 300 mm ABOVE THE TOP OF THE CULVERT SLAB TO THE TOP OF THE DROP INLET AND ADD THE RESULT TO THE QUANTITY IN THE PRECEDING COLUMN.
- BAR LIST AS SHOWN FOR EXTRA DEPTH DROP INLETS IS FIGURED TO AN ELEVATION 300 mm ABOVE TOP OF CULVERT SLAB.
- CH-BARS AS SHOWN FOR DROP INLETS ARE INCLUDED IN TABLE OF STANDARD DROP INLETS QUANTITIES AND ARE #16M BARS.
- ALL EXPOSED CONCRETE SURFACES SHALL HAVE A FINISH IN ACCORDANCE WITH THE 1999 METRIC STANDARD SPECIFICATIONS, UNLESS SPECIFIED OTHERWISE IN THE PLANS.
- INLET WALL THICKNESS SHALL BE 200 mm MINIMUM.
- INLET TOP OPENING SHALL HAVE 75 mm x 3.43 kg STD. WEIGHT STEEL, GALVANIZED, SCHEDULE 40, PIPE SAFETY GRATES INSTALLED PERPENDICULAR TO THE DIRECTION OF TRAFFIC AT 300 mm (MAXIMUM) CENTERS. COST OF PIPE SAFETY GRATES & ALL HARDWARE NEEDED FOR INSTALLATION SHALL BE INCLUDED IN THE PRICE BID FOR THE INLET.
- PIPE GRATE ENDS SHALL BE HELD DOWN WITH M14 x 140 mm GALV. BOLT, WASHER & NUT MEETING THE REQUIREMENTS OF ASTM-A-325M. BOLT THREADS, 45 mm, SHALL REMAIN EXPOSED FOR INSTALLING THE GRATE.
- USE 2 CH - BARS THE SAME LENGTH AS THE A-BARS IN CULVERT BARREL & 2 CH-BARS W/LENGTH EQUAL TO CLEAR SPAN+300 mm.
- DROP INLET WALLS, FLOOR & CURB CONSTRUCTION SHALL CONSIST OF THE SAME CLASS OF CONCRETE USED FOR THE REINFORCED CONCRETE BOX.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
611.06(E)	INLET ●	EACH
611.06(F)	ADDITIONAL DEPTH IN INLET ●	METER

● INLET TYPE AND DESIGN NUMBER SHALL BE SPECIFIED.

APPROVED BY ROADWAY ENGINEER DATE

OKLAHOMA DEPT. OF TRANSPORTATION
ROADWAY STANDARD (METRIC)
REINFORCED CONCRETE DROP INLETS FOR
REINFORCED CONCRETE BOXES
600 mm x 600 mm TO 1800 mm x 1800 mm

1999 SPECIFICATIONS

CD11-1 01M

ALL DIMENSIONS ON THIS SHEET IN MILLIMETERS UNLESS OTHERWISE NOTED.

R-46M

DIMENSIONS & QUANTITIES - STD. DROP INLETS

DESIGN NO.	SIZE OF CULVERT			REINFORCING STEEL								QUANTITIES			
	CLEAR SPAN mm	CLEAR HEIGHT mm	AREA OF OPENING m ²	CH-BARS STRAIGHT		H1-BARS BENT		H2-BARS STRAIGHT		H3-BARS STRAIGHT		V-BARS BENT		CLASS A/AA CONCRETE W/ CURB m ³	REINF. STEEL W/ CURB kg
				NO.	LGTH. mm	NO.	LGTH. mm	NO.	LGTH. mm	NO.	LGTH. mm	NO.	LGTH. mm		
1	600	600	0.36	4	900	5	3360	3	1350	4	800	7	1295	0.72	26.13
2	900	600	0.54	4	1200	5	3660	5	1350	4	1100	7	1295	0.87	39.58
3	900	750	0.68	4	1200	6	3960	5	1500	4	1100	7	1450	1.06	41.00
4	900	900	0.81	4	1200	7	4260	5	1650	5	1100	7	1600	1.27	49.37
5	1200	600	0.72	4	1500	5	4025	7	1350	4	1400	8	1300	1.01	39.06
6	1200	750	0.90	4	1500	6	4260	7	1500	4	1400	8	1450	1.22	51.66
7	1200	900	1.08	4	1500	7	4560	7	1650	5	1400	8	1600	1.45	61.38
8	1200	1200	1.44	4	1500	9	5160	7	1950	7	1400	8	1900	1.96	82.62
9	1500	600	0.90	4	1800	5	4260	9	1350	4	1700	11	1300	1.15	58.72
10	1500	900	1.35	4	1800	7	4860	9	1650	5	1700	11	1600	1.63	85.81
11	1500	1200	1.80	4	1800	9	5460	9	1950	7	1700	11	1900	2.18	111.52
12	1500	1500	2.25	4	1800	14	6060	9	2250	9	1700	11	2200	2.80	134.05
13	1500	1800	2.70	4	1800	13	6660	9	2550	11	1700	11	2500	3.49	157.76
14	1800	600	1.08	4	2100	6	4560	11	1350	4	2000	13	1300	1.30	66.70
15	1800	900	1.62	4	2100	8	5160	11	1650	4	2000	13	1600	1.81	94.56
16	1800	1200	2.16	4	2100	10	5760	11	1950	7	2000	13	1900	2.40	124.57
17	1800	1500	2.70	4	2100	12	6360	11	2250	9	2000	13	2200	3.06	155.04
18	1800	1800	3.24	4	2100	14	6960	11	2550	11	2000	13	2500	3.79	181.45

● INSIDE DIMENSION FROM FRONT WALL TO HEADWALL WILL BE EQUAL TO 1500 mm.

DIMENSIONS & QUANTITIES - EXTRA DEPTH DROP INLETS

SIZE OF CULVERT			REINFORCING STEEL										CLASS A/AA CONC. ☐ CUBIC METERS		REINFORCING STEEL KILOGRAMS		PIPE GRAT						
CLEAR SPAN mm	CLEAR HEIGHT mm	AREA OF OPENING m ²	CH-BARS STRAIGHT		H1-BARS BENT		H2-BARS STRAIGHT		H3-BARS STRAIGHT		H4-BARS BENT		Y1-BARS BENT		V2-BARS BENT		V3-BARS BENT		TOTAL TO 300 mm. Abv. TOP OF CULV. SLAB INCL. CURB	PER METER OF ADD'L HEIGHT	TOTAL TO 300 mm. Abv. TOP OF CULV. SLAB INCL. CURB	PER METER OF ADD'L HEIGHT	NO. OF PIPE GRAT
			NO.	LGTH. mm	NO.	LGTH. mm	NO.	LGTH. mm	NO.	LGTH. mm	NO.	LGTH. mm	NO.	LGTH. mm	NO.	LGTH. mm	NO.	LGTH. mm					
600	600	0.36	4	900	5	3360	7	1350	4	800	2	3370	5	1650	2	1800	1	1275	0.92	0.64	51.8	34.7	1
900	600	0.54	4	1200	5	3660	8	1350	4	1100	2	2170	6	1650	2	1800	1	1275	1.10	0.74	59.8	50.3	2
900	750	0.68	4	1200	6	3960	9	1500	4	1100	2	4270	6	1800	2	1950	1	1275	1.31	0.82	69.6	54.4	2
900	900	0.81	4	1200	7	4260	10	1650	5	1100	2	4570	6	1950	2	2100	1	1275	1.53	0.88	81.5	58.6	2
1200	600	0.72	4	1500	5	3960	11	1350	4	1400	2	3600	8	1650	2	1800	2	1275	1.28	0.88	73.2	57.6	3
1200	750	0.90	4	1500	6	4260	12	1500	4	1400	2	4870	8	1800	2	1950	2	1275	1.50	0.94	84.1	59.5	3
1200	900	1.08	4	1500	7	4560	13	1650	5	1400	2	5170	8	1950	2	2100	2	1275	1.75	1.00	97.4	66.5	3
1200	1200	1.44	4	1500	9	5160	14	1950	7	1400	2	5770	8	2250	2	2400	2	1275	2.55	1.24	131.7	78.5	3
1500	600	0.90	4	1800	8	4260	15	1350	4	1700	2	5170	11	1650	2	1800	3	1275	1.45	1.00	102.2	66.5	4
1500	900	1.35	4	1800	11	4860	16	1650	5	1700	2	5770	11	1950	2	2100	3	1275	1.97	1.12	134.4	76.3	4
1500	1200	1.80	4	1800	13	5460	7	1950	7	1700	2	6370	11	2250	2	2400	3	1275	2.55	1.24	147.5	59.3	4
1500	1500	2.25	4	1800	15	6060	8	2250	9	1700	2	6970	11	2550	2	2700	3	1275	3.21	1.36	180.1	96.0	4
1500	1800	2.70	4	1800	17	6660	9	2550	11	1700	2	7570	11	2550	2	2700	3	1275	3.53	1.48	209.1	101.9	4
1800	600	1.08	4	2100	8	4560	10	1350	4	2000	2	5770	11	1650	2	1800	3	1275	1.63	1.12	101.5	69.5	5
1800	900	1.62	4	2100	11	5160	11	1650	4	2000	2	6370	11	1950	2	2100	3	1275	2.18	1.24	131.3	79.3	5
1800	1200	2.16	4	2100	13	5760	12	1950	7	2000	2	6970	11	2250	2	2400	3	1275	2.81	1.36	165.6	85.3	5
1800	1500	2.70	4	2100	15	6360	13	2250	9	2000	2	7570	11	2550	2	2700	3	1275	3.50	1.48	200.9	98.9	5
1800	1800	3.24	4	2100	17	6960	14	2550	11	2000	2	8170	11	2850	2	3000	3	1275	4.27	1.60	239.1	108.8	5