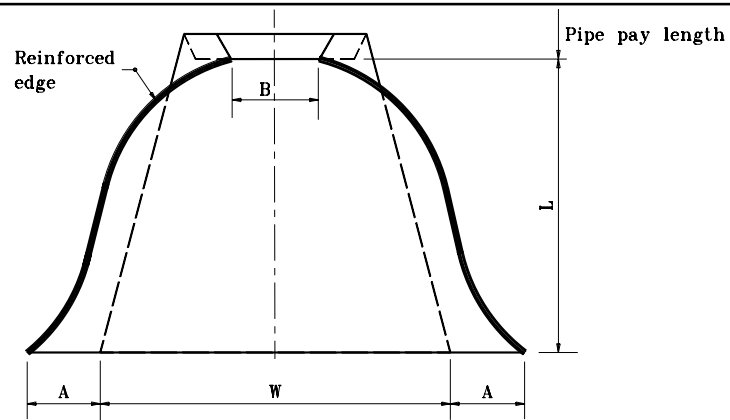
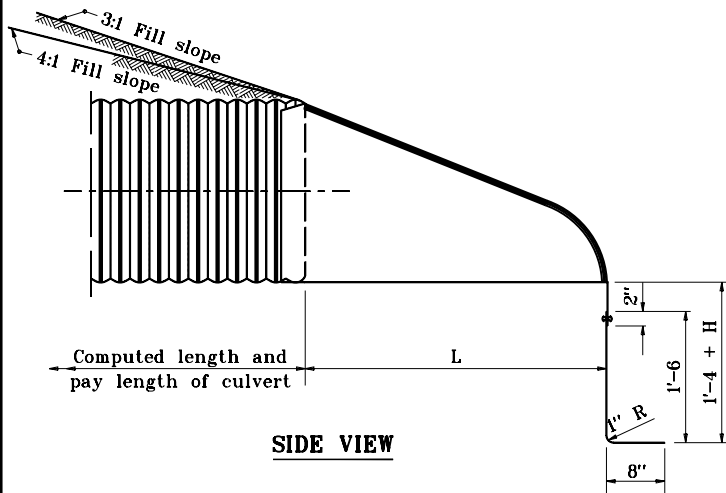


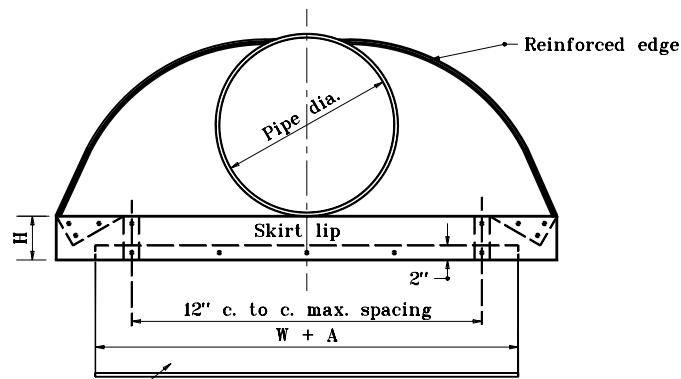
PIPE DIA.	END SECTION THICK. (in.)	DIMENSIONS					APPROX. SLOPE	BODY
		A (± 1")	B (Max.)	H (± 1")	L (± 1½")	W (± 2")		
12	.064	6	6	6	21	24	2½:1	1 Pc.
15	.064	7	8	6	26	30	2½:1	1 Pc.
18	.064	8	10	6	31	36	2½:1	1 Pc.
21	.064	9	12	6	36	42	2½:1	1 Pc.
24	.064	10	13	6	41	48	2½:1	1 Pc.
30	.079	12	16	8	51	60	2½:1	1 Pc.
36	.079	14	19	9	60	72	2½:1	2 Pc.



PLAN VIEW



SIDE VIEW



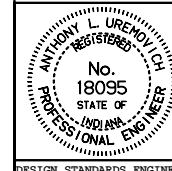
END VIEW

INDIANA DEPARTMENT OF TRANSPORTATION

METAL PIPE END SECTION

JANUARY 1998

STANDARD DRAWING NO. E 715-MPES-01



DETAILS PLACED IN THIS FORMAT 11-15-99

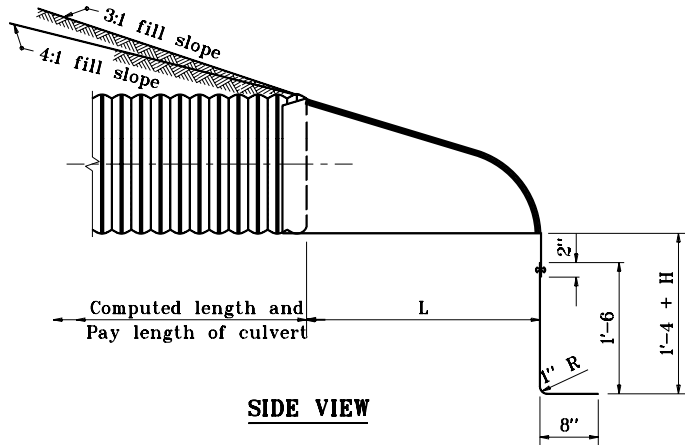
/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

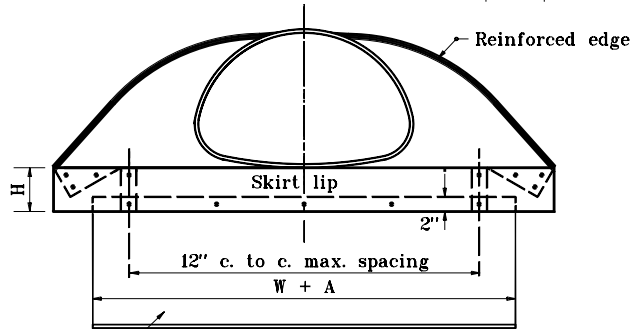
DESIGN STANDARDS ENGINEER

ORIGINALLY APPROVED 1-02-98

PIPE-ARCH DIMENSIONS		END SECTION THICK. (in.)	DIMENSIONS					APPROX. SLOPE	BODY
SPAN	RISE		A (±1")	B (Max.)	H (±1")	L (±1½")	W (±2")		
17	13	.064	7	9	6	19	30	2½:1	1 Pc.
21	15	.064	7	10	6	23	36	2½:1	1 Pc.
24	18	.064	8	12	6	28	42	2½:1	1 Pc.
28	20	.064	9	14	6	32	48	2½:1	1 Pc.
35	24	.079	10	16	8	39	60	2½:1	1 Pc.
42	29	.079	12	18	9	46	75	2½:1	1 Pc.

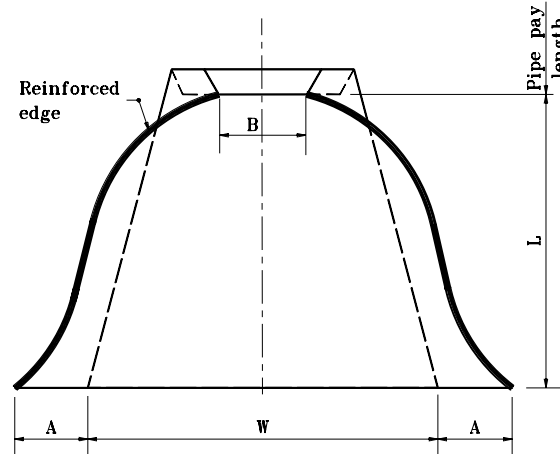


SIDE VIEW



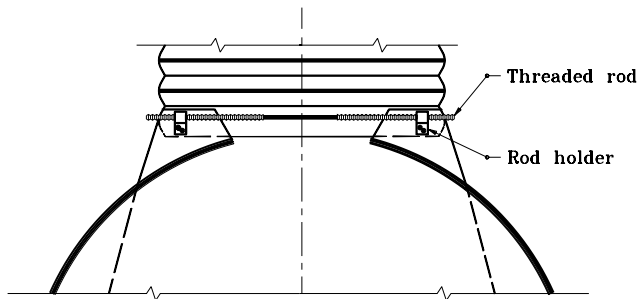
END VIEW

Toe plate anchor

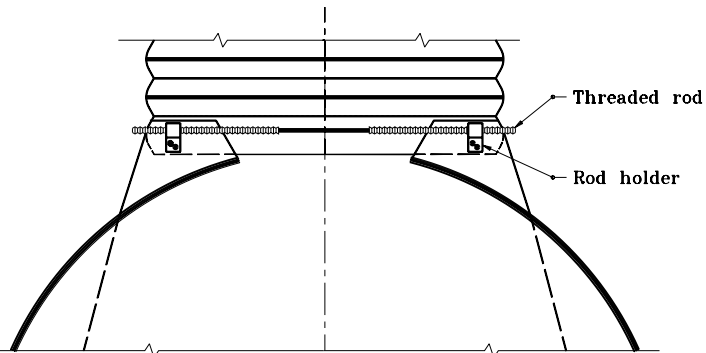


PLAN VIEW

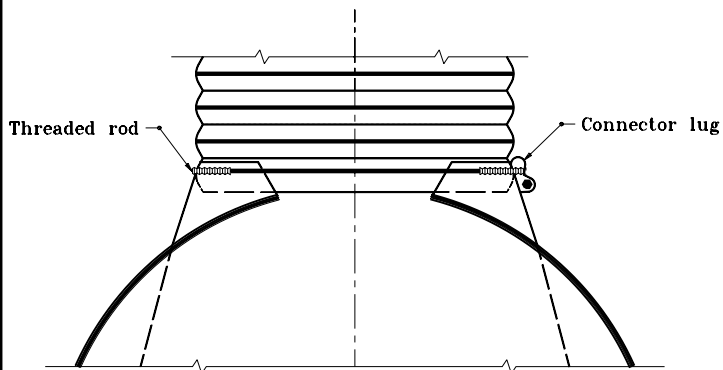
INDIANA DEPARTMENT OF TRANSPORTATION	
METAL PIPE ARCH	
END SECTION	
JANUARY 1998	
STANDARD DRAWING NO. E 715-MPES-02	
DETAILS PLACED IN THIS FORMAT 11-15-99	
	/s/ Anthony L. Uremovich 11-15-99 DESIGN STANDARDS ENGINEER DATE
	/s/ Firooz Zandi 11-15-99 CHIEF HIGHWAY ENGINEER DATE
DESIGN STANDARDS ENGINEER	ORIGINALLY APPROVED 1-02-98



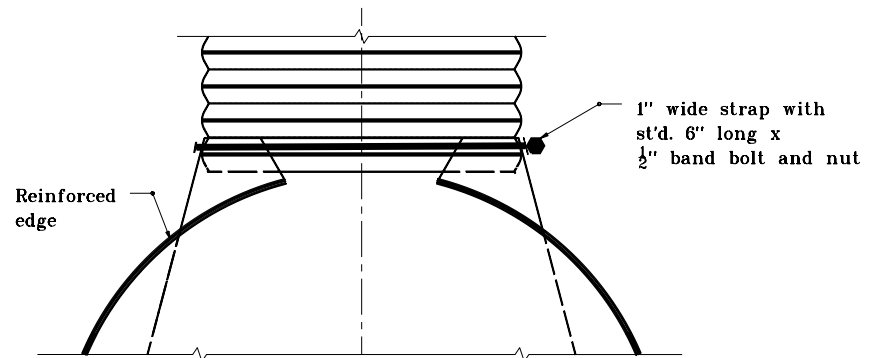
TYPE 1
FOR 17" x 13" THROUGH 42" x 29" ONLY



TYPE 4
FOR 30" THROUGH 36" ONLY



TYPE 3
FOR 12" THROUGH 24" ONLY

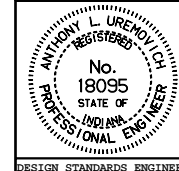


ALTERNATE TYPE 3
FOR 12" THROUGH 24" ONLY

INDIANA DEPARTMENT OF TRANSPORTATION

**METAL PIPE
END SECTION CONNECTIONS**
JANUARY 1998

STANDARD DRAWING NO. **E 715-MPES-03**



DETAILS PLACED IN THIS FORMAT 7-27-99

/s/ Anthony L. Uremovich 7-27-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 7-27-99
CHIEF HIGHWAY ENGINEER DATE

DESIGN STANDARDS ENGINEER

ORIGINALLY APPROVED 1-02-98