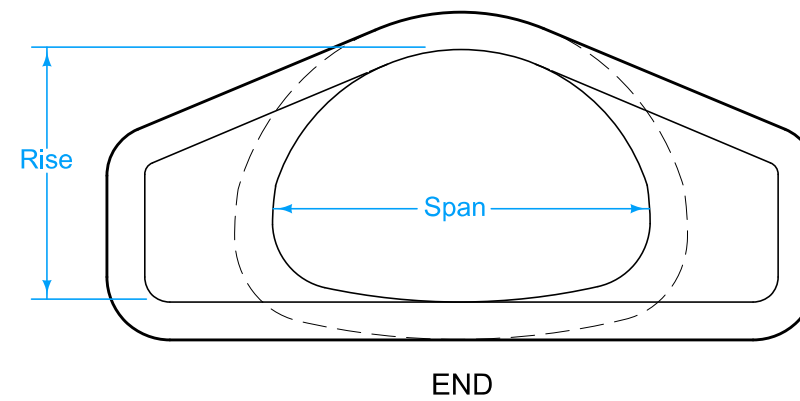
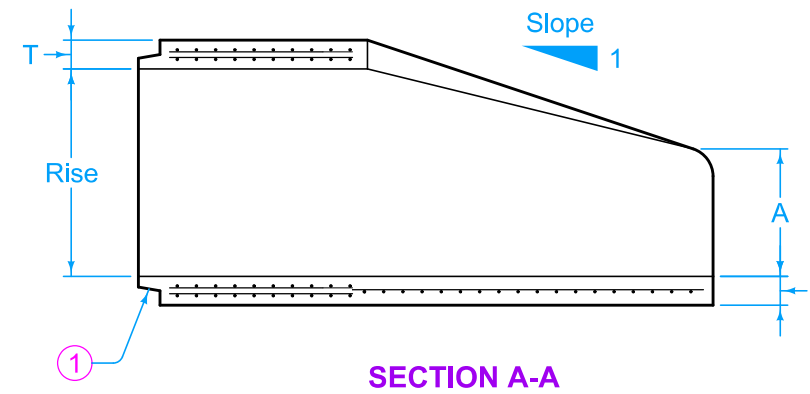
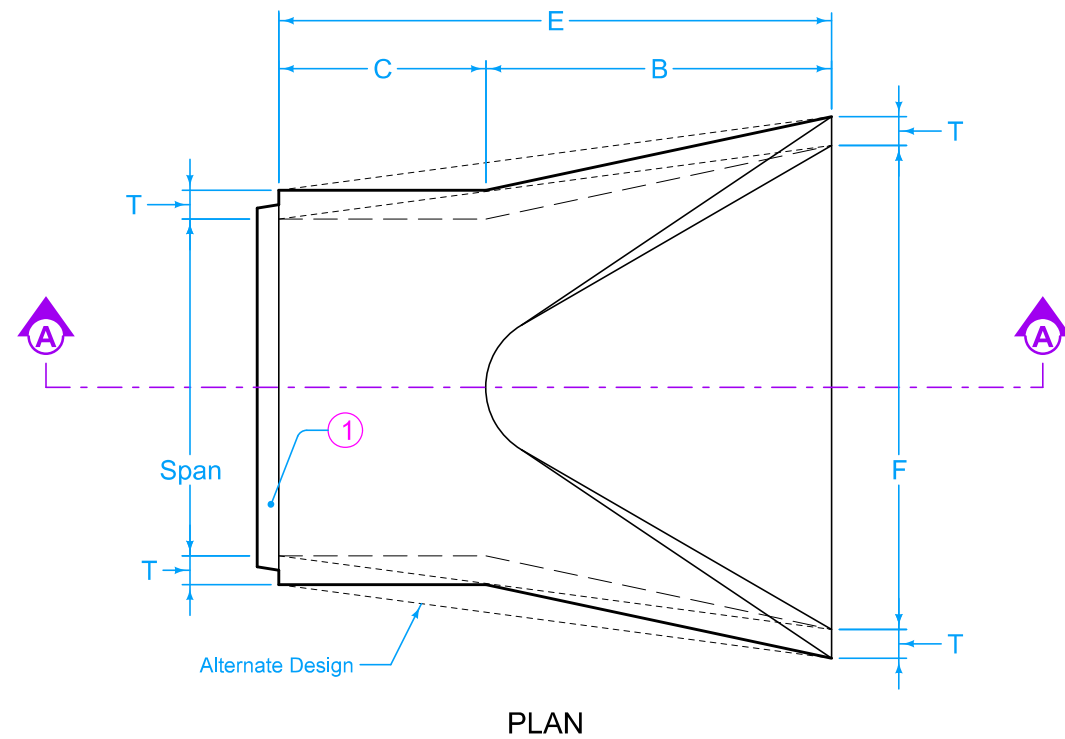


DESIGNER INFORMATION



Comply with AASHTO M 206 for Apron Reinforcement.

Dimension "E" shown is minimum and is considered the design length. Appropriately adjust for any difference between the actual length of concrete apron installed and the length indicated hereon for the length of concrete culvert pipe furnished.

Install connected pipe joints as shown on DR-121.

Slight variations in both shape and dimensions from those shown may be accepted if approved by the engineer.

① Tongue end on inlet end section. Groove end on outlet end section. Inlet end section is shown.

NOMINAL DIMENSIONS SPAN X RISE Inches	EQUIVALENT DIAMETER Inches	SPAN Inches	RISE Inches	SLOPE	APPROXIMATE DIMENSIONS Inches * Maximum					
					T	A	B	C	E	F
22 X 14	18	22	13 1/2	3:1	2 1/2	7	27	45	72	36 *
29 X 18	24	28 1/2	18	3:1	3	8 1/2	39	33	72	48
37 X 23	30	36 1/4	22 1/2	3:1	3 1/2	9 1/2	50	46	96	60
44 X 27	36	43 3/8	26 5/8	3:1	4	11 1/8	60	36	96	72
52 X 32	42	51 1/8	31 5/16	3:1	4 1/2	15 13/16	60	36	96	78
59 X 36	48	58 1/2	36	3:1	5	21	60	36	96	84
65 X 40	54	65	40	3:1	5 1/2	25 1/2	60	36	96	90
73 X 45	60	73	45	3:1	6	31	60	36	96	96
88 X 54	72	88	54	2:1	7	31	60	39	99	120
102 X 62	84	102	62	2:1	8	21 1/2	83	19	102	144

ARCH PIPE

Possible Contract Item:
Low Clearance Concrete Pipe Aprons

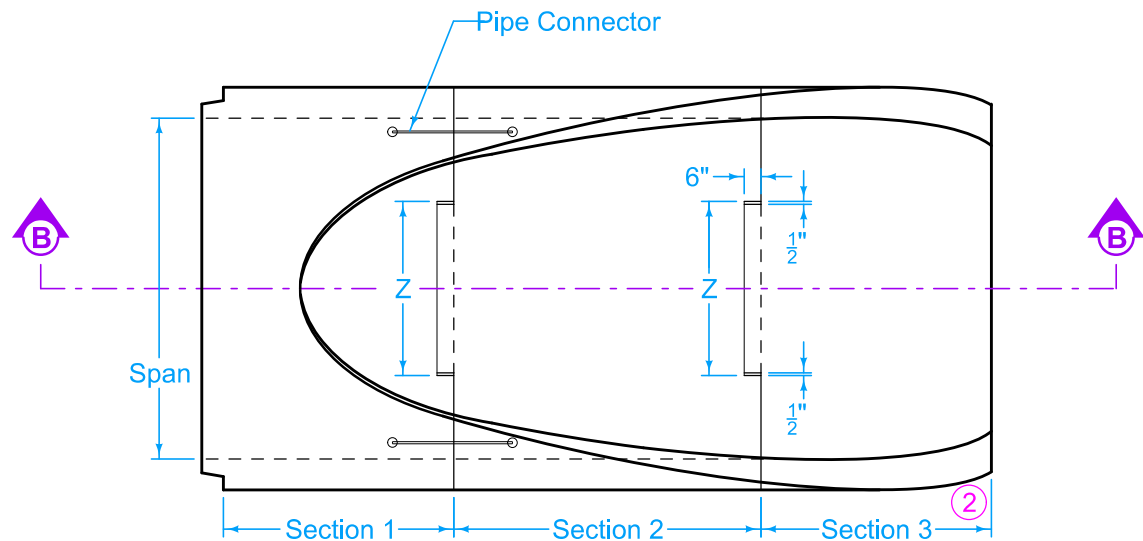
Possible Tabulations:
104-3
104-4

	REVISION	
	2	10-17-23
STANDARD ROAD PLAN		DR-202
		SHEET 1 of 3

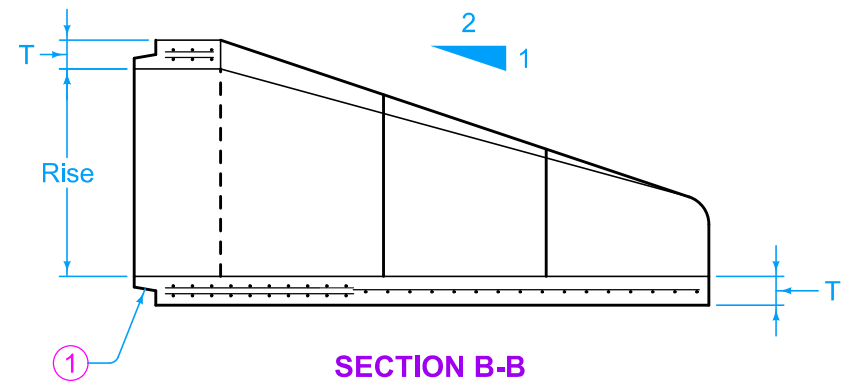
REVISIONS: Added note about shape and dimensions.

Steve Miller
APPROVED BY DESIGN METHODS ENGINEER

**LOW CLEARANCE
CONCRETE PIPE APRONS**



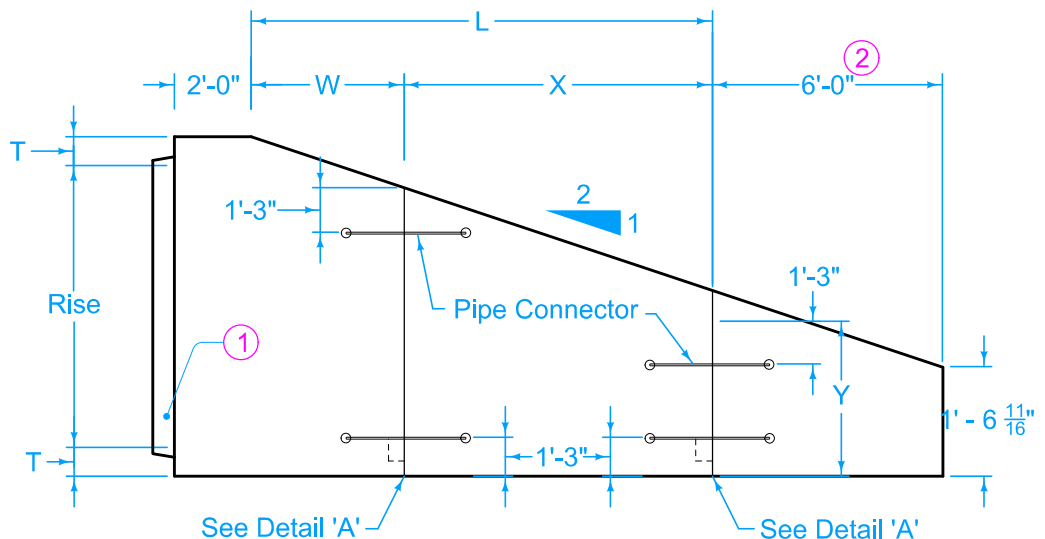
PLAN



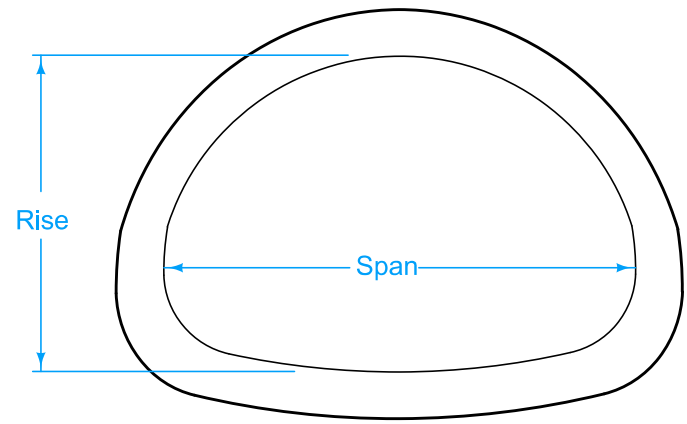
SECTION B-B

Slight variations in both shape and dimensions from those shown may be accepted if approved by the engineer.

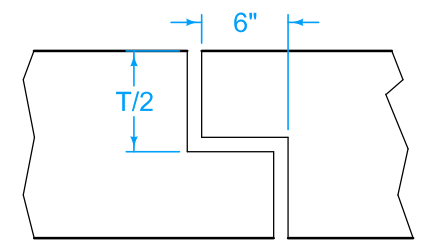
- ① Tongue end on inlet end section. Groove end on outlet end section. Inlet end section is shown.
- ② 132 inch size is a three piece end section.



ELEVATION



END



DETAIL 'A'

NOMINAL DIMENSIONS SPAN X RISE Inches	EQUIVALENT DIAMETER Inches	SPAN Inches	RISE Inches	APPROXIMATE DIMENSIONS Inches					
				T	L	W	X	Y	Z
115 X 72	90	115	72	8 1/2	102 1/4	72	30 1/4	37 7/8	48
122 X 78	96	122	77 1/2	9	112 1/2	72	40 1/2	39	54
138 X 88	108	138	87 1/8	10	129 1/2	48	81 1/2	42 3/8	66
154 X 97	120	154	96 7/8	11	144	48	96	46 7/8	78
169 X 107	132 ②	168 3/4	106 1/2	10	144	48	96	54 5/8	90

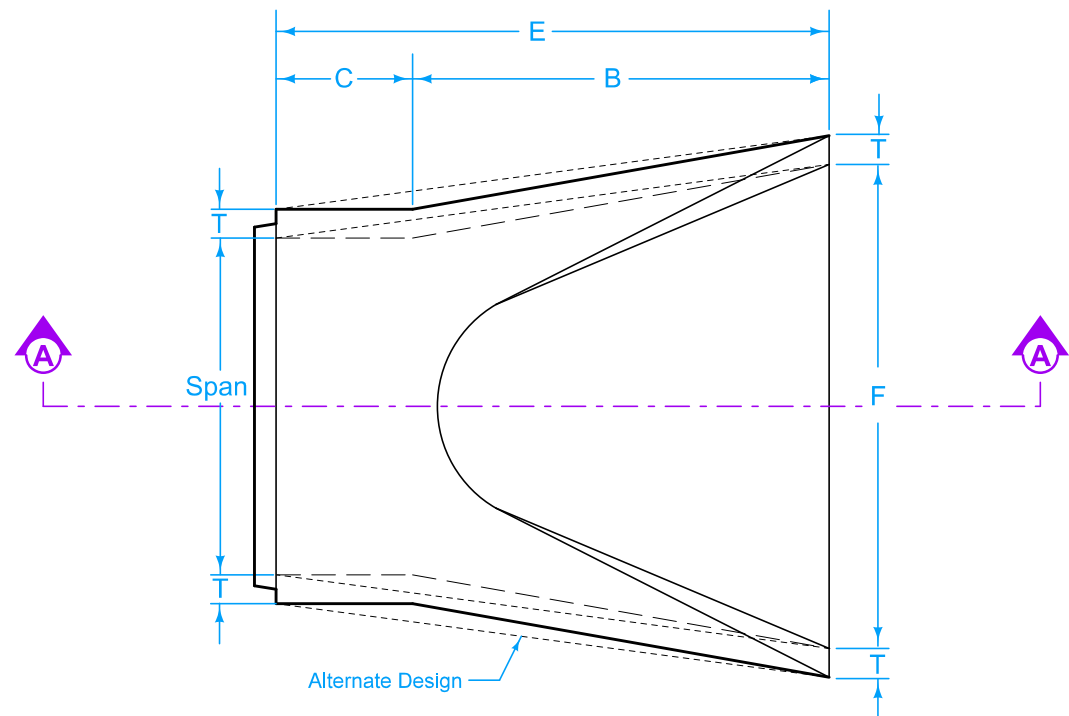
ARCH PIPE (MULTI-SECTION APRON)

 STANDARD ROAD PLAN	REVISION	
	2	10-17-23
	DR-202 SHEET 2 of 3	

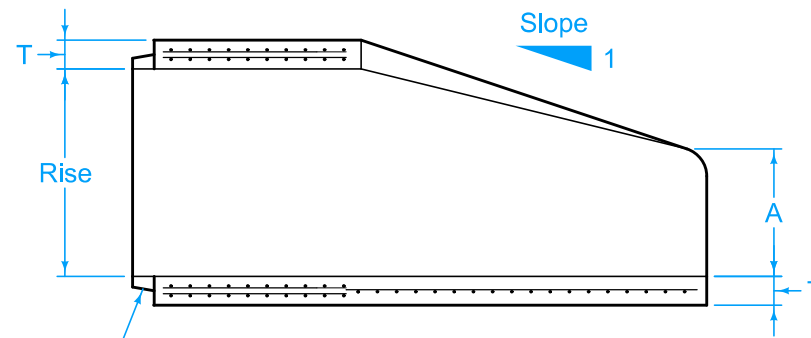
REVISIONS: Added note about shape and dimensions.

Shawn Miller
 APPROVED BY DESIGN METHODS ENGINEER

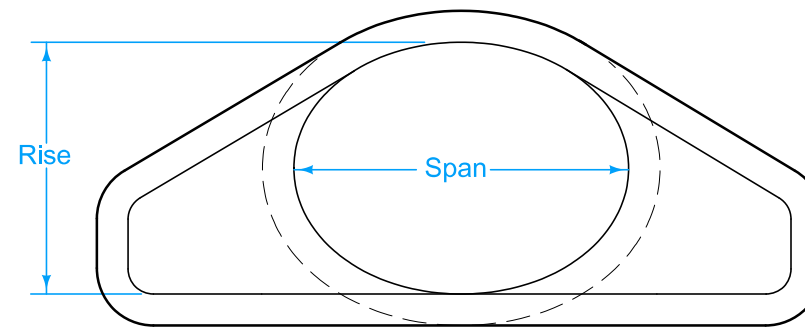
**LOW CLEARANCE
 CONCRETE PIPE APRONS**



PLAN



SECTION A-A



END

Comply with AASHTO M 207 for Apron Reinforcement.

Dimension "E" shown is minimum and is considered the design length. Appropriately adjust for any difference between the actual length of concrete apron installed and the length indicated hereon for the length of concrete culvert pipe furnished.

Install connected pipe joints as shown on DR-121.

Slight variations in both shape and dimensions from those shown may be accepted if approved by the engineer.

① Tongue end on inlet end section. Groove end on outlet end section. Inlet end section shown.

EQUIVALENT DIAMETER Inches	SPAN Inches	RISE Inches	SLOPE	APPROXIMATE DIMENSIONS Inches * Maximum					
				T	A	B	C	E	F
18	23	14	3:1	2 ³ / ₄	7 ¹ / ₂	27	45	72	36 *
24	30	19	3:1	3 ¹ / ₄	8 ¹ / ₂	39	33	72	48
30	38	24	3:1	3 ³ / ₄	9 ¹ / ₂	54	18	72	60
36	45	29	2.5 to 1	4 ¹ / ₂	11 ¹ / ₈	60	24	84	72
42	53	34	2.5 to 1	5	15 ³ / ₄	60	36	96	78
48	60	38	2.5 to 1	5 ¹ / ₂	21	60	36	96	84
54	68	43	2.5 to 1	6	25 ¹ / ₂	60	36	96	90
60	76	48	2.5 to 1	6 ¹ / ₂	30	60	36	96	96
72	91	58	2.5 to 1	7 ¹ / ₂	36	63	33	96	108
90	113	72	1.6 to 1	9	36 ¹ / ₂	58	38	96	113

ELLIPTICAL PIPE

	REVISION	
	2	10-17-23
	DR-202	
SHEET 3 of 3		

REVISIONS: Added note about shape and dimensions.

Shawn Miller
APPROVED BY DESIGN METHODS ENGINEER

**LOW CLEARANCE
CONCRETE PIPE APRONS**