

PC-1

STRUCTURAL PLATE ALUMINUM ALLOY PIPE 9" x 2 1/2" CORRUGATIONS								
PIPE DIAMETER INCHES	AREA SQ. FT.	SHEET THICKNESS IN INCHES						
		0.10	0.125	0.15	0.175	0.20	0.225	0.25
60	20	29	32	35	38	41	45	48
66	24	26	28	31	33	35	38	40
72	28	24	25	27	29	31	33	35
78	33	22	24	25	26	28	29	31
84	38	21	22	23	25	26	27	28
90	44	20	21	22	23	24	25	26
96	50	19	20	21	22	23	23	24
102	57	18	20	20	21	22	22	23
108	64	17	19	20	20	21	21	22
114	71	16	19	19	20	20	21	21
120	78	15	18	19	19	20	20	20
132	95	14	18	18	19	19	19	19
144	113	12	18	18	18	18	19	19
156	133	17	18	18	18	18	18	18
168	154	17	18	18	18	18	18	18
180	177	17	18	18	18	18	18	18
192	201	17	17	17	17	17	17	17
204	227	14	16	17	17	17	17	17
216	254	13	15	15	15	15	15	15
228	284	13	13	13	13	13	13	13

- NOTES:
- COVER HEIGHTS INDICATED IN TABLE ARE FOR FINISHED CONSTRUCTION.
 - TO PROTECT PIPE DURING CONSTRUCTION, MINIMUM HEIGHT OF COVER PRIOR TO ALLOWING CONSTRUCTION TRAFFIC TO CROSS INSTALLATION SHALL BE 18" ON EACH SIDE OF THE PIPE OR TO THE INTERSECTION WITH A CUT.
 - STANDARD MINIMUM FINISHED HEIGHT OF COVER FOR ALL PIPES SHALL BE 2'-0" OR 1/2" DIAMETER, WHICHEVER IS GREATER. IN CASES IN WHICH THESE COVER HEIGHTS CANNOT BE ACHIEVED, AND ABSOLUTE MINIMUM FINISHED COVER HEIGHT OF 1'-0" OR 1/4" DIAMETER, WHICHEVER IS GREATER, WILL BE ALLOWED ONLY IF ALL POSSIBLE MEANS TO OBTAIN THE STANDARD VALUE HAVE BEEN EXHAUSTED.
 - SEE STANDARD PB-1 FOR PIPE BEDDING AND BACKFILL REQUIREMENTS.
 - THE MAXIMUM HEIGHT OF COVER SHOWN IN THE TABLES IS BASED ON A SOIL MODULUS OF 700 PSI. ALL OTHER DESIGN CRITERIA ARE IN ACCORDANCE WITH AASHTO SPECIFICATIONS AND VDOT MODIFICATIONS FOR SOIL CORRUATED METAL STRUCTURE INTERACTION SYSTEMS.
 - STEEL BOLTS ONLY TO BE USED. BOLTS ARE 3/4" DIAMETER HIGH STRENGTH TO MEET CURRENT AASHTO DESIGNATION M-184 AND GALVANIZED TO MEET CURRENT ASTM DESIGNATION A-394. BOLTS ARE TO BE LOCATED IN THE VALLEY AND CREST OF EACH CORRUGATION IN DOUBLE ROWS SPACED 1 1/2" APART.

SPECIFICATION REFERENCE	232	REV. 7/05
	302	107.13
STRUCTURAL PLATE ALUMINUM ALLOY PIPE HEIGHT OF COVER TABLE FOR H-20 LIVE LOAD VIRGINIA DEPARTMENT OF TRANSPORTATION		
PC-1		

NOMINAL SIZE	PIPE ARCH DIMENSION		MINIMUM THICKNESS REQUIRED GAUGE	MAXIMUM ALLOWABLE COVER HEIGHT IN FEET			
	SPAN	AREA SQ. FT.			Rc INCHES		
						4000 LBS./SQ. FT. (SEE NOTE 4)	6000 LBS./SQ. FT. (SEE NOTE 6)
6'-1"	4'-7"	22	18	12	16	15	24
6'-4"	4'-9"	24	18	12	15	15	23
6'-9"	4'-11"	26	18	12	14	14	22
7'-3"	5'-1"	28	18	12	14	14	21
7'-8"	5'-3"	31	18	12	13	13	20
7'-11"	5'-5"	33	18	12	12	12	19
8'-2"	5'-7"	35	18	12	12	12	18
8'-7"	5'-9"	38	18	12	11	11	18
8'-10"	6'-1"	43	18	12	11	11	17
9'-4"	6'-3"	46	18	12	10	10	16
9'-6"	6'-5"	49	18	12	10	10	15
9'-9"	6'-7"	52	18	12	10	10	15
10'-3"	6'-9"	55	18	12	9	9	14
10'-8"	6'-11"	58	18	12	9	9	14
10'-11"	7'-1"	61	18	12	9	9	13
11'-5"	7'-3"	67	18	12	8	8	13
11'-7"	7'-5"	67	18	12	8	8	12
11'-10"	7'-7"	71	18	12	8	8	12
12'-4"	7'-9"	74	18	12	8	8	12
12'-6"	7'-11"	78	18	12	8	8	12
12'-8"	8'-1"	81	18	12	7	7	11
12'-10"	8'-4"	85	18	12	7	7	11
13'-5"	8'-5"	89	18	12	7	7	10
13'-11"	8'-7"	93	18	12	7	7	10
14'-1"	8'-9"	97	18	12	6	6	10
14'-3"	8'-11"	101	18	12	6	6	10
14'-10"	9'-1"	105	18	12	6	6	10
15'-4"	9'-3"	109	18	12	6	6	9
15'-4"	9'-5"	113	18	12	6	6	9
15'-8"	9'-7"	118	18	12	6	6	9
15'-10"	9'-10"	122	18	12	6	6	9
16'-5"	9'-11"	126	18	12	6	6	9
16'-7"	10'-1"	131	18	12	6	6	9

SHEET 10 OF 18

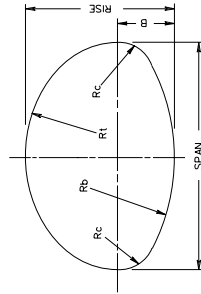
SPECIFICATION REFERENCE	232
	302
STRUCTURAL PLATE STEEL PIPE ARCH HEIGHT OF COVER TABLE FOR H-20 LIVE LOAD VIRGINIA DEPARTMENT OF TRANSPORTATION	
REV. 7/05	
107.14	

NEW 7/05
 SPECIAL DESIGN SECTION
 DRAWING NO. A 166_5

PLAN NO.	PROJECT	FILE NO.	SHEET NO.
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DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

REVISED	STATE	FEDERAL AID PROJECT	ROUTE	STATE PROJECT	SHEET NO.
	VA.				



- NOTES
- COVER HEIGHTS INDICATED IN TABLE ARE FOR FINISHED CONSTRUCTION.
 - TO PROTECT PIPE DURING CONSTRUCTION, MINIMUM HEIGHT OF COVER PRIOR TO ALLOWING CONSTRUCTION TRAFFIC TO CROSS INSTALLATION SHALL BE 1/2" SPAN FOR ALL ARCHES. THE APPROACH FILL RAMP IS TO EXTEND A MINIMUM OF 10 FEET TO EACH SIDE OF THE PIPE ARCH. THE APPROACH FILL RAMP IS TO BE A CUT, A STRUCTURE, OR TO THE INTERSECTION WITH A CUT.
 - STANDARD MINIMUM FINISHED HEIGHT OF COVER FOR ALL PIPES SHALL BE 2'-0" OR 1/2" SPAN, WHICHEVER IS GREATER. IN CASES IN WHICH THESE COVER HEIGHTS CANNOT BE ACHIEVED, AND ABSOLUTE MINIMUM FINISHED COVER HEIGHT OF 1'-0" OR 1/8" SPAN, WHICHEVER IS GREATER, WILL BE ALLOWED ONLY IF ALL POSSIBLE MEANS TO OBTAIN THE STANDARD VALUE HAVE BEEN EXHAUSTED.
 - SEE STANDARD PB-1 FOR PIPE BEDDING AND BACKFILL REQUIREMENTS.
 - THE MAXIMUM HEIGHT OF COVER SHOWN IN THE TABLES IS BASED ON A SOIL MODULUS OF 700 PSI. ALL OTHER DESIGN CRITERIA ARE IN ACCORDANCE WITH AASHTO SPECIFICATIONS AND VDOT MODIFICATIONS FOR SOIL CORRUATED METAL STRUCTURE INTERACTION SYSTEMS.
 - WHEN DESIGN HEIGHT OF COVER REQUIRES THE BACKFILL TO BE PLACED AT AN ANGLE, THE BACKFILL MUST BE APPROVED BY THE ENGINEER.
 - STRUCTURAL PLATE PIPE ARCH DIMENSIONS ARE TO INSIDE OF CREST AND ARE SUBJECT TO MANUFACTURING TOLERANCES.