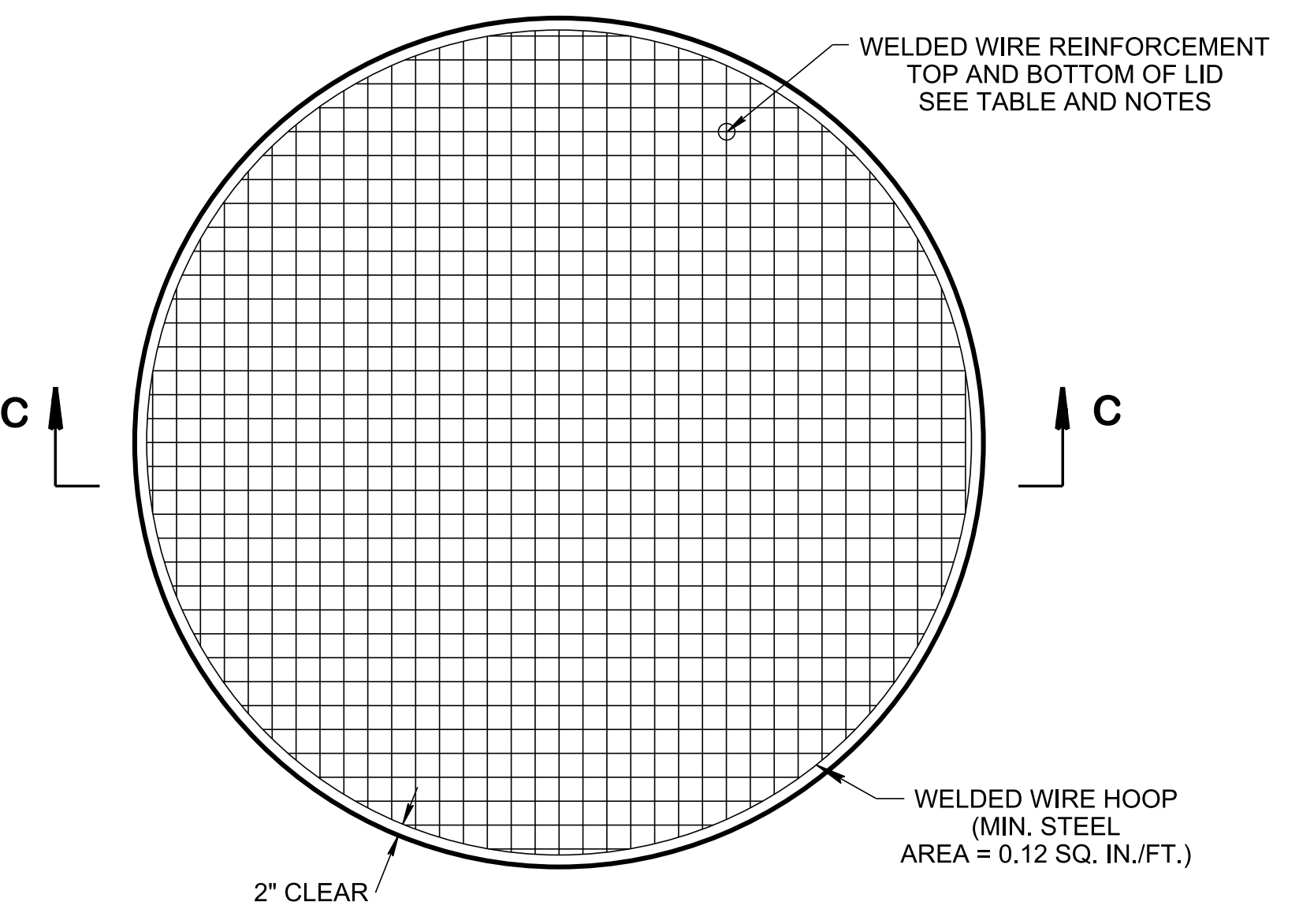
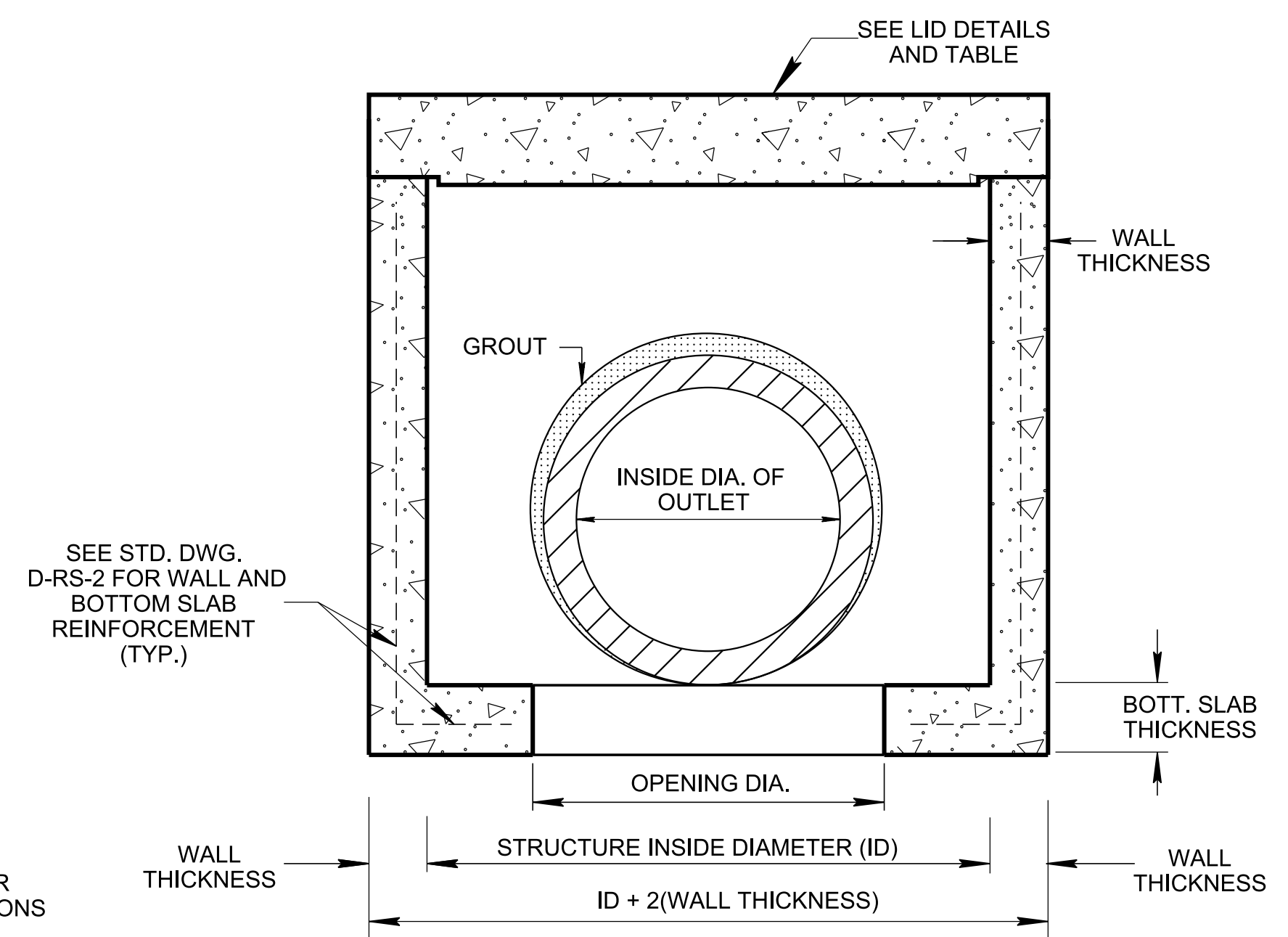
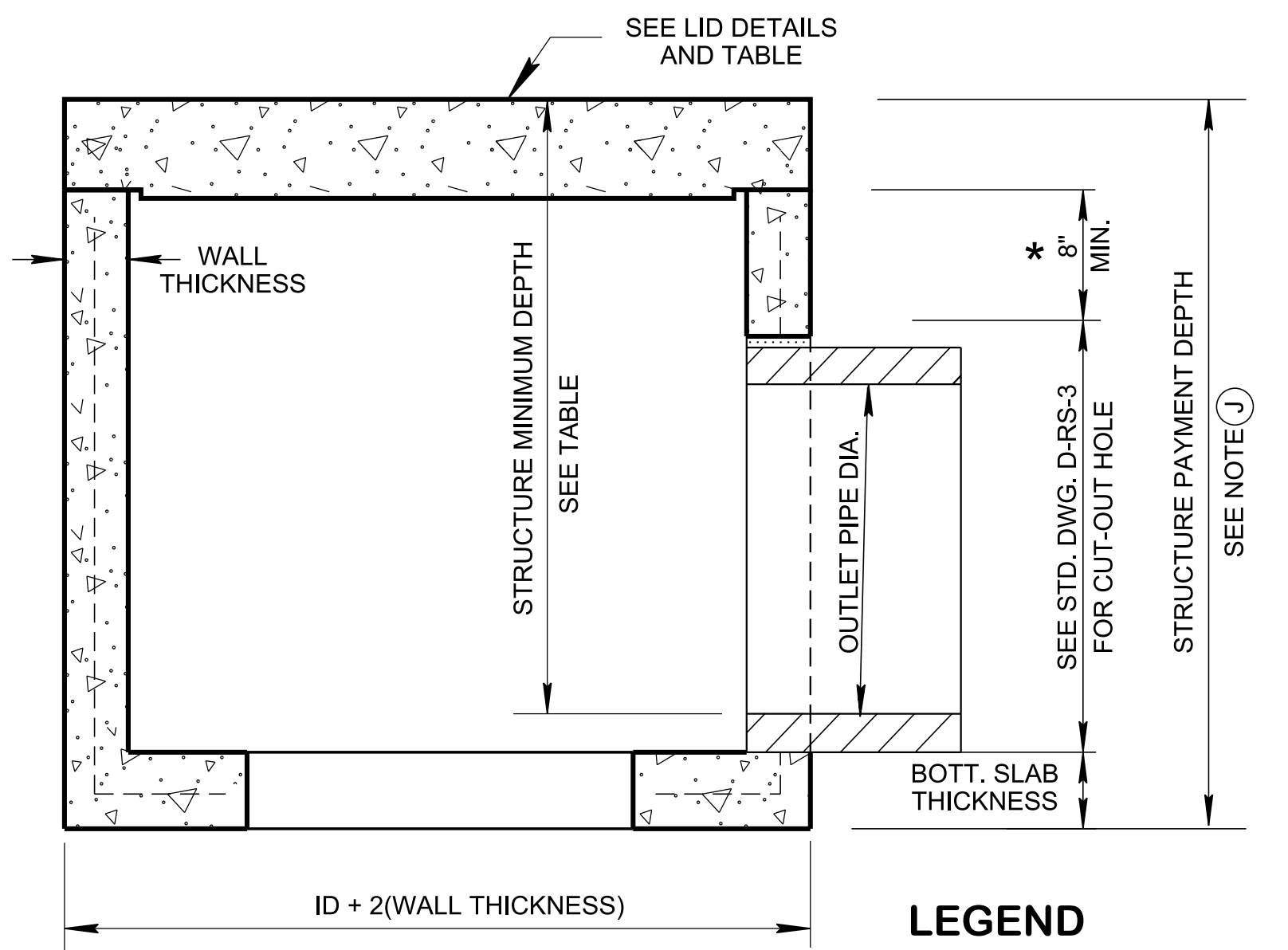


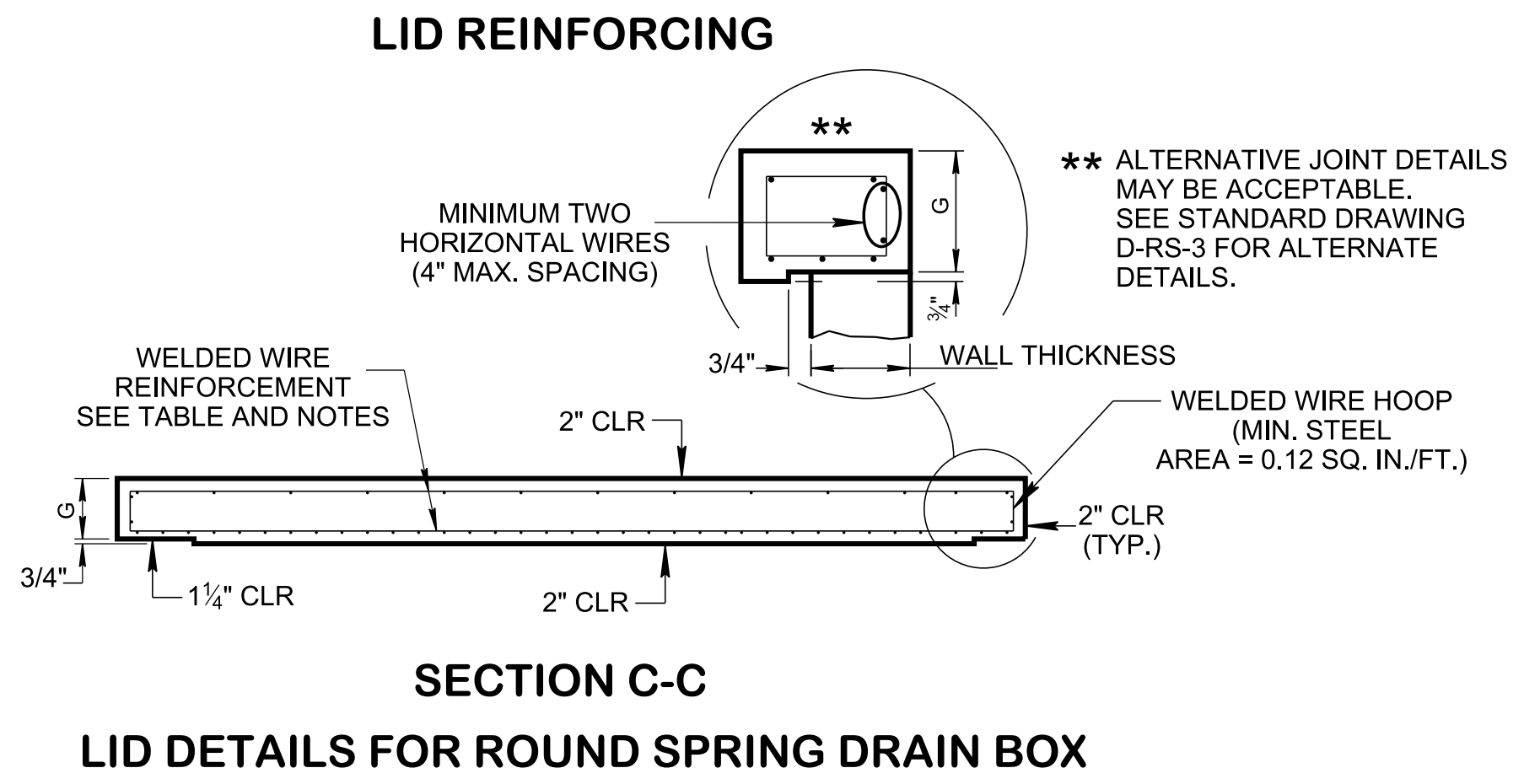
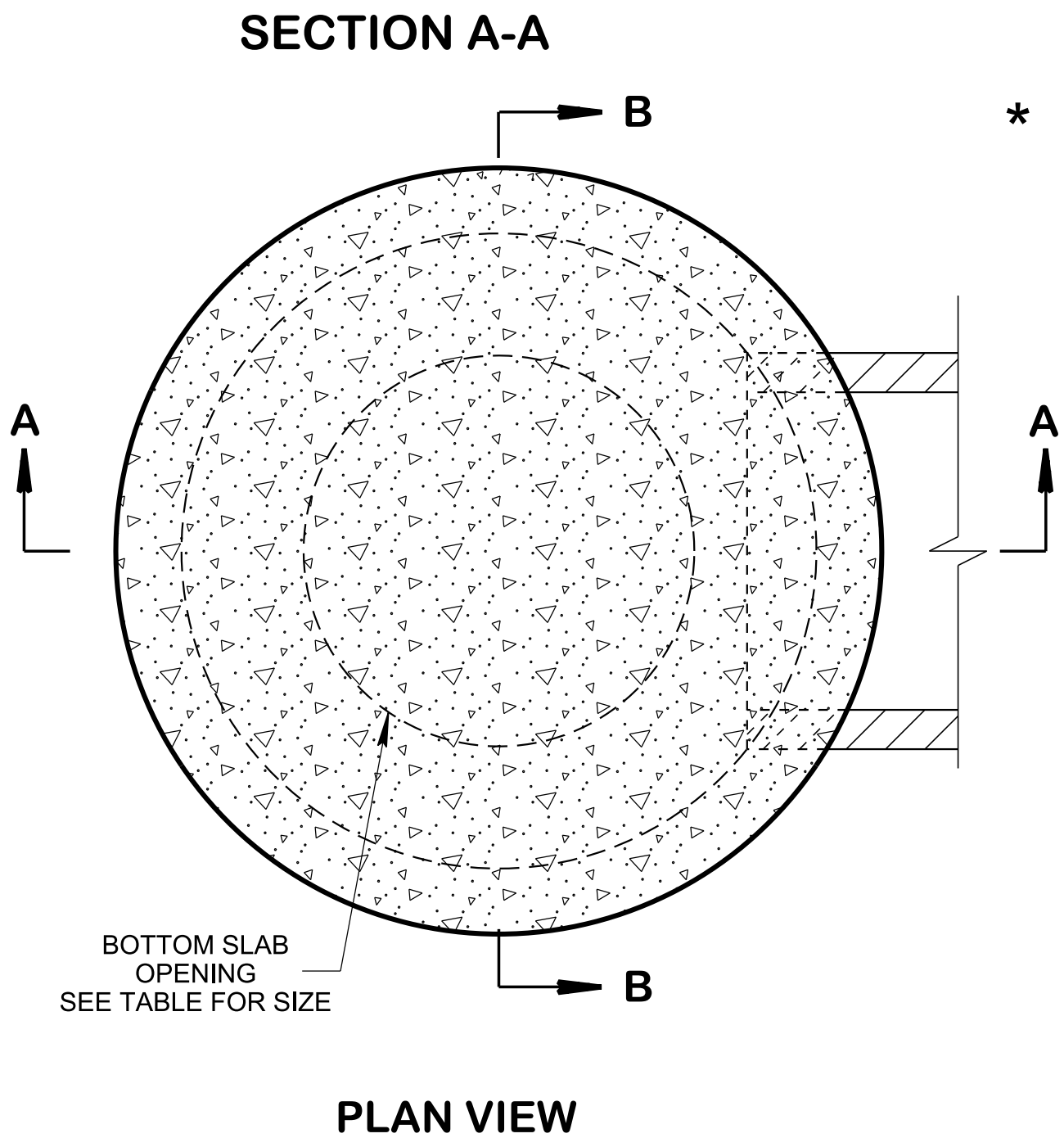
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**LEGEND**

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 921 REQUIRED AROUND PIPE OPENINGS ONLY

\* 8" FOR ID 48", 60", AND 72"  
12" FOR ID 84", 96", 108" AND 120"



ROUND SPRING DRAIN BOX LIDS DIMENSION & REINFORCEMENT							
ROUND SPRING DRAIN BOX STRUC. INSIDE DIA. (ID)	LID DIA.	G	BOTT. SLAB OPENING DIAM.	MIN. STEEL AREA FOR LID			
				BOTTOM MAT WWR		TOP MAT WWR	
				STEEL AREA (SQ. INCH/ FT)	SPACING (4" MAX.) & SIZE	STEEL AREA (SQ. INCH/ FT)	SPACING (4" MAX.) & SIZE
48"	4'-10"	8"	24"	0.42	4x4-D14xD14	0.12	4X4-D4xD4
60"	6'-0"	8"	30"	0.49	4x4-D17xD17	0.12	4X4-D4xD4
72"	7'-2"	9"	36"	0.45	4x4-D15xD15	0.12	4X4-D4xD4
84"	8'-4"	10"	42"	0.49	4x4-D17xD17	0.12	4X4-D4xD4
96"	9'-6"	11"	48"	0.45	4x4-D15xD15	0.12	4X4-D4xD4
108"	10'-8"	13"	54"	0.47	4x4-D16xD16	0.12	4X4-D4xD4
120"	11'-10"	15"	60"	0.50	4x4-D17xD17	0.12	4X4-D4xD4

ROUND SPRING DRAIN BOX STRUCTURES DIMENSION & ITEM NO.																		
ROUND SPRING DRAIN BOX STRUC. INSIDE DIA. (ID)	WALL THK.	BOTT. SLAB THK.	MAX. DEPTH OF STRUC.	MAX. INLET OR OUTLET CONC. PIPE SIZE STRAIGHT	MAX. INLET OR OUTLET CONC. PIPE SIZE AT 90°	ROUND SPRING DRAIN BOX STRUC. MINIMUM DESIGN DEPTH (FT)										PAY ITEM NO. (PER EACH)		
						INLET OR OUTLET PIPES INSIDE DIAMETER										> 4'-8' Depth	(') Depth	
						18"	24"	30"	36"	42"	48"	54"	60"	66"	72"			78"
48"	5"	6"	20"	30"	18"	3.29	3.83										611-64.01	611-64.02
60"	6"	8"	40"	36"	24"	3.50	4.04	4.58	5.13								611-64.10	611-64.11
72"	7"	8"	40"	48"	30"	3.63	4.17	4.71	5.25	5.79	6.33						611-64.20	611-64.21
84"	8"	8"	40"	60"	36"	3.75	4.29	4.83	5.38	5.92	6.46	7.00	7.54				611-64.30	611-64.31
96"	9"	8"	40"	66"	42"	3.88	4.42	4.96	5.50	6.04	6.58	7.13	7.67	8.21			611-64.40	611-64.41
108"	10"	12"	40"	72"	48"	4.08	4.63	5.17	5.71	6.25	6.79	7.33	7.88	8.42	9.00	9.50	611-64.50	611-64.51
120"	11"	12"	40"	78"	54"	4.29	4.83	5.38	5.92	6.46	7.00	7.54	8.08	8.63	9.20	9.70	611-64.60	611-64.61

- GENERAL NOTES**
- (A) THIS SPRING DRAIN BOX WILL CONFORM TO THE STANDARD DRAWING UNLESS OTHERWISE SHOWN OR DIRECTED BY THE ENGINEER TO MEET SPECIAL CONDITIONS. THERE WILL BE NO VARIATION FROM THE CONTRACT PRICE DUE TO SUCH CHANGES. IN ALL CASES IT MUST BE BUILT LARGE ENOUGH TO ACCOMMODATE INLET AND OUTLET PIPES.
  - (B) ALL PRECAST ELEMENTS TO MEET ASTM C478 (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) AND AASHTO LRFD UNLESS SUPERSEDED BY THE STANDARD DRAWINGS.
  - (C) THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR PRECAST STRUCTURES:
    - CONCRETE:  $f'_c = 4,000$  POUNDS PER SQUARE INCH AT 28 DAYS.
    - WWR MEETING ASTM A1064,  $F_y = 70,000$  POUNDS PER SQUARE INCH. PLAIN OR DEFORMED WIRE MAY BE USED FOR BASE SECTIONS. DEFORMED WIRE SHALL BE USED FOR ALL LIDS.
    - AS AN ALTERNATIVE, REBAR MEETING ASTM A615 OR A706,  $F_y = 60,000$  POUNDS PER SQUARE INCH MAY BE USED.
    - REFER TO STANDARD DRAWINGS D-SDS- SERIES.
  - (D) REFER TO STANDARD DRAWING D-RS-1 FOR ROUND STRUCTURE ADDITIONAL GENERAL NOTES.
  - (E) REFER TO STANDARD DRAWING D-RS-2 FOR ROUND STRUCTURE BASE SECTION REINFORCEMENT DETAILS.
  - (F) REFER TO STANDARD DRAWING D-RS-3 FOR PIPE CUT-OUT HOLE DETAILS, NON-MONOLITHIC BASE SECTION DETAILS AND ALTERNATIVE JOINT DETAILS.
  - (G) BOTTOM MAT OF WWR IN LIDS SHALL HAVE A MAXIMUM SPACING OF 4 INCHES IN EACH DIRECTION. IF REBAR IS USED, MAX. SPACING = 12" EACH DIRECTION.
  - (H) TOP MAT OF WWR IN LIDS SHALL HAVE A MINIMUM OF 0.12 SQ. INCH PER FT IN BOTH DIRECTIONS.
  - (I) THE COST OF FURNISHING AND PLACING CONCRETE, TO BE USED FOR THE FORMING OF INVERTS, TO BE INCLUDED IN THE PRICE BID FOR ROUND SPRING DRAIN BOX STRUCTURES.
  - (J) ROUND SPRING DRAIN BOX STRUCTURES PAYMENT DEPTH MEASUREMENT MADE FROM THE TOP SLAB TO THE BOTTOM SLAB, SEE SECTION A-A FOR DETAIL. SEE TABLE FOR ITEM NUMBERS

STATE OF TENNESSEE  
STANDARD DRAWING  
DEPARTMENT OF TRANSPORTATION

**PRECAST ROUND SPRING DRAIN BOX STRUCTURES (48" THRU 120")**

NOT TO SCALE