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Washers shall conform to ASTM F436.

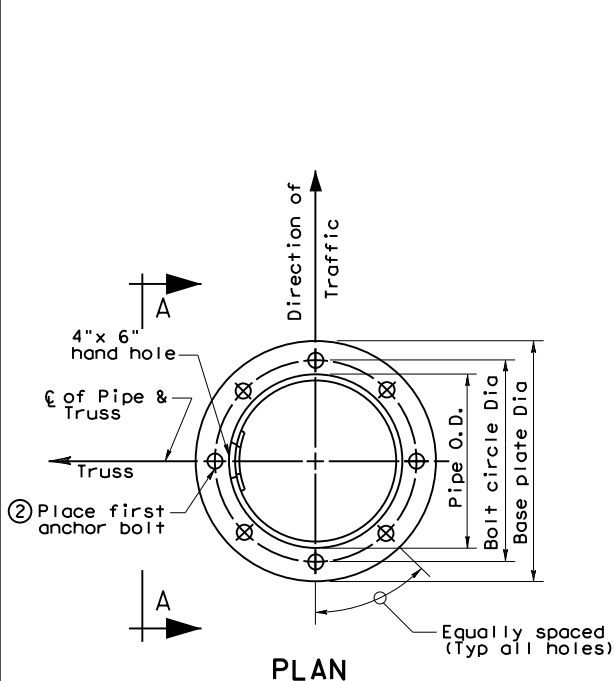
ANCHOR BOLT DIA. d	WASHER DIMENSIONS				HOLE IN BASE PLATE
	OUTSIDE DIAMETER	HOLE DIAMETER	THICKNESS		
			MIN.	MAX.	
1 1/2" or less	2d	d + 1/8"	0.136"	0.177"	d + 1/4"
1 3/4"	2d - 1/8"	d + 1/8"	0.178"	0.280"	d + 3/16"
2"	2d - 1/4"	d + 1/8"	0.178"	0.280"	d + 5/16"
Over 2"	2d - 1/2"	d + 1/8"	0.240"	0.340"	d + 5/16"

ANCHOR BOLT SIZE				
DIA	BOLT LENGTH	THREAD LENGTH	PROJECTION LENGTH	GALVAN. LENGTH
1 1/4"	2'-11"	5"	5 1/4"	11 1/4"
1 3/8"	3'-1"	5 1/2"	5 3/4"	11 3/4"
1 1/2"	3'-4"	6"	6 1/4"	1'-0 1/4"
1 3/4"	3'-10"	7"	7 1/4"	1'-1 1/4"
2"	4'-3"	8"	8 1/4"	1'-2 1/4"
2 1/4"	4'-9"	9"	9 1/4"	1'-3 1/4"
2 1/2"	5'-2"	10"	10 1/4"	1'-4 1/4"
2 3/4"	5'-8"	11"	11 1/4"	1'-5 1/4"
3"	6'-1"	1'-0"	1'-0 1/4"	1'-6 1/4"

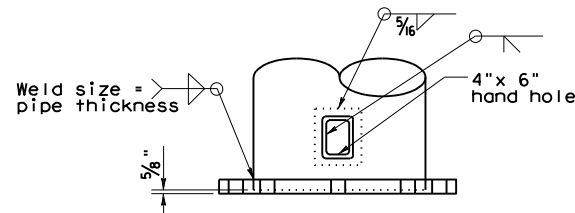
Anchor Bolt Fabrication Tolerances:
 Bolt Length ~ ±1/2"
 Thread Length ~ ±1/2"
 Galvanized Length ~ -1/4"

ANCHOR BOLT SIZE	PIPE OUTSIDE DIAMETER											
	16"			20"			24"			30"		
	BOLT CIRCLE DIA	DRILLED SHAFT SIZE	DRILLED SHAFT REINF	BOLT CIRCLE DIA	DRILLED SHAFT SIZE	DRILLED SHAFT REINF	BOLT CIRCLE DIA	DRILLED SHAFT SIZE	DRILLED SHAFT REINF	BOLT CIRCLE DIA	DRILLED SHAFT SIZE	DRILLED SHAFT REINF
1 1/4" Dia x 2'-11"	20 1/2"	36" Dia	14-#8 (A)	24 1/2"	36" Dia	14-#8 (A)						
1 3/8" Dia x 3'-1"	20 3/4"	36" Dia	12-#9 (A)	24 3/4"	36" Dia	12-#9 (A)						
1 1/2" Dia x 3'-4"	21"	36" Dia	12-#9 (A)	25"	42" Dia	14-#9 (A)	29"	42" Dia	14-#9 (C)			
1 3/4" Dia x 3'-10"	21 1/2"	36" Dia	10-#10 (A)	25 3/8"	42" Dia	12-#10 (B)	29 3/8"	42" Dia	12-#10 (C)	35 3/8"	48" Dia	16-#10 (C)
2" Dia x 4'-3"	22"	36" Dia	12-#10 (A)	25 3/4"	42" Dia	12-#10 (B)	29 3/4"	48" Dia	16-#10 (C)	35 3/4"	54" Dia	18-#10 (C)
2 1/4" Dia x 4'-9"	22 1/2"	36" Dia	10-#11 (A)	26"	42" Dia	10-#11 (B)	30"	48" Dia	14-#11 (C)	36"	54" Dia	14-#11 (D)
2 1/2" Dia x 5'-2"				26 1/2"	42" Dia	12-#11 (B)	30 1/2"	48" Dia	16-#11 (C)	36 1/2"	54" Dia	16-#11 (D)
2 3/4" Dia x 5'-8"							31 1/2"	48" Dia	18-#11 (D)	37"	54" Dia	20-#11 (D)
3" Dia x 6'-1"										37 1/2"	54" Dia	24-#11 (D)

A = #3 Plain spiral at 6" pitch (Grade 40)
 B = #4 Plain spiral at 6" pitch (Grade 40)
 C = #4 Plain spiral at 6" pitch (Grade 60)
 D = #4 Plain spiral at 3 1/2" pitch (Grade 60)



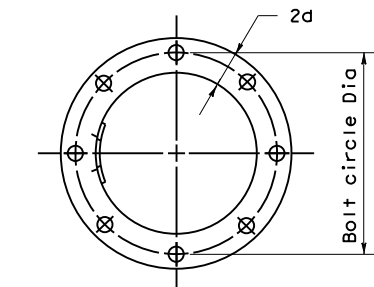
See "Cantilever Overhead Sign Support" or "High Level Cantilever Overhead Sign Support" sheets for number and size.



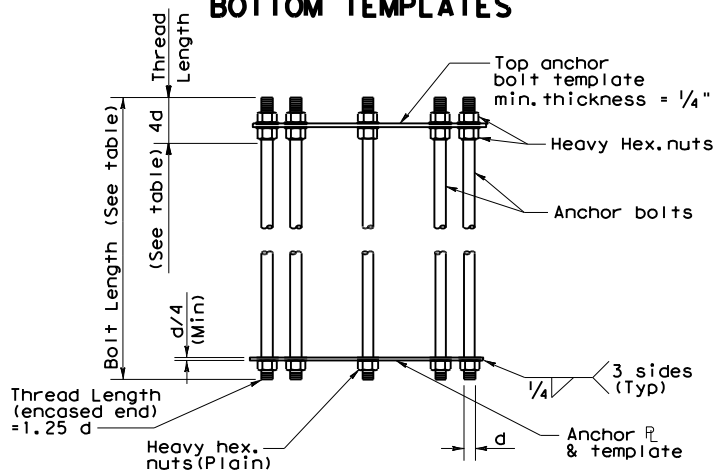
Cut 5" x 7" hole in pipe. Center 4" x 6" hand hole in 3/8" x 8" x 10" back up plate. Provide attachable cover made from section cut from pipe.

BASE PLATE & HANDHOLE DETAILS

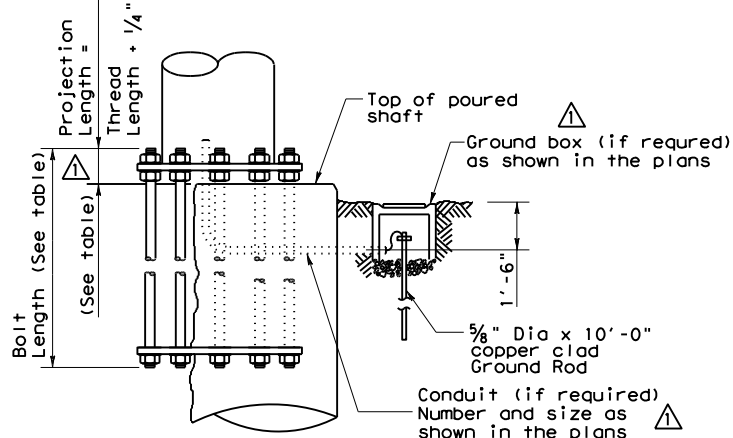
See "Cantilever Overhead Sign Support" or "High Level Cantilever Overhead Sign Support" sheets for Diameter and thickness of base plate.



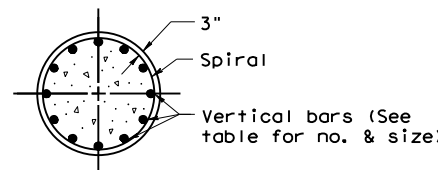
TOP VIEW OF TOP & BOTTOM TEMPLATES



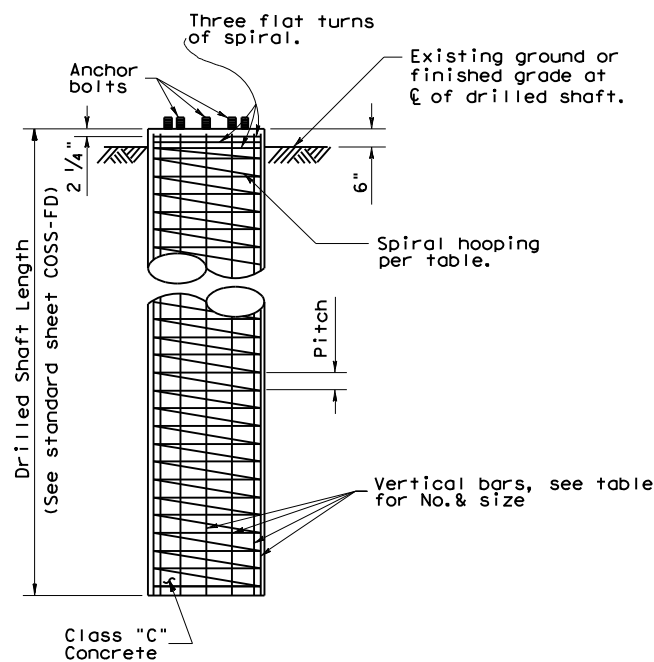
ANCHOR BOLT ASSEMBLY (PRIOR TO INSTALLATION)



BEARING SEAT ELEVATION



SECTION



FOUNDATION DETAIL

GENERAL NOTES:

Concrete shall be Class "C".
 Reinforcing shall conform to Item 440, "Reinforcing Steel".
 Anchor bolts and nuts for anchor bolts shall be "Alloy Steel" per Item 449, "Anchor Bolts".
 Anchor bolts shall be rigidly held in position during concrete placement using steel templates at the top and bottom. The top templates shall be removed after the concrete has set.
 Lubricate and tighten anchor bolts when erecting the structure per Item 449, "Anchor Bolts". After the structure has been aligned in its final position and the anchor bolts have been properly tightened, tack weld anchor bolt nuts to washer, and tack weld washers to base plate. Galvanizing in tack welded areas shall be repaired in accordance with Item 445, "Galvanizing".
 All vertical reinforcing shall be carried to the bottom of the Drilled Shaft.

Modified ground box and conduit labels. Removed "4d" dimension. (Modified 7/15)

Texas Department of Transportation
 Traffic Operations Division

CANTILEVER OVERHEAD SIGN SUPPORT FOUNDATION

COSSF (DAL)

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REVISIONS		CONT	SECT	JOB	HIGHWAY
		DIST	COUNTY		SHEET NO.