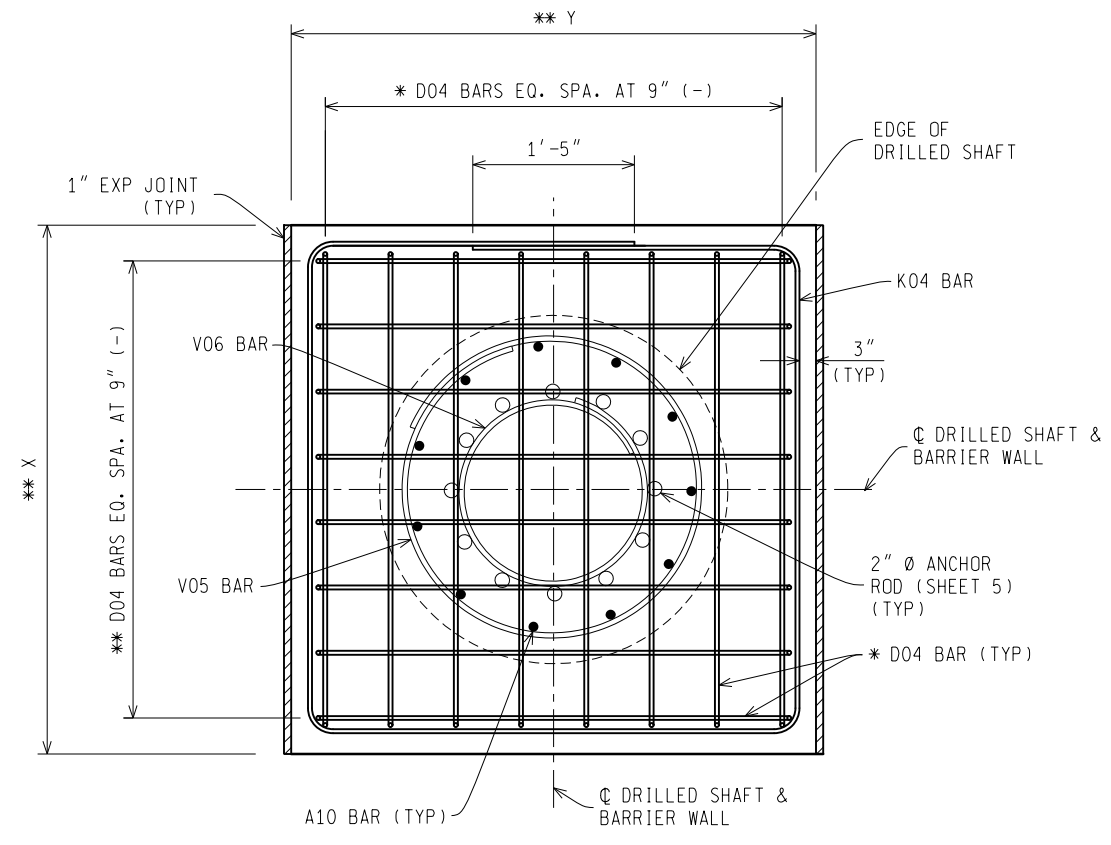


PLAN VIEW - TYPE A DRILLED SHAFT



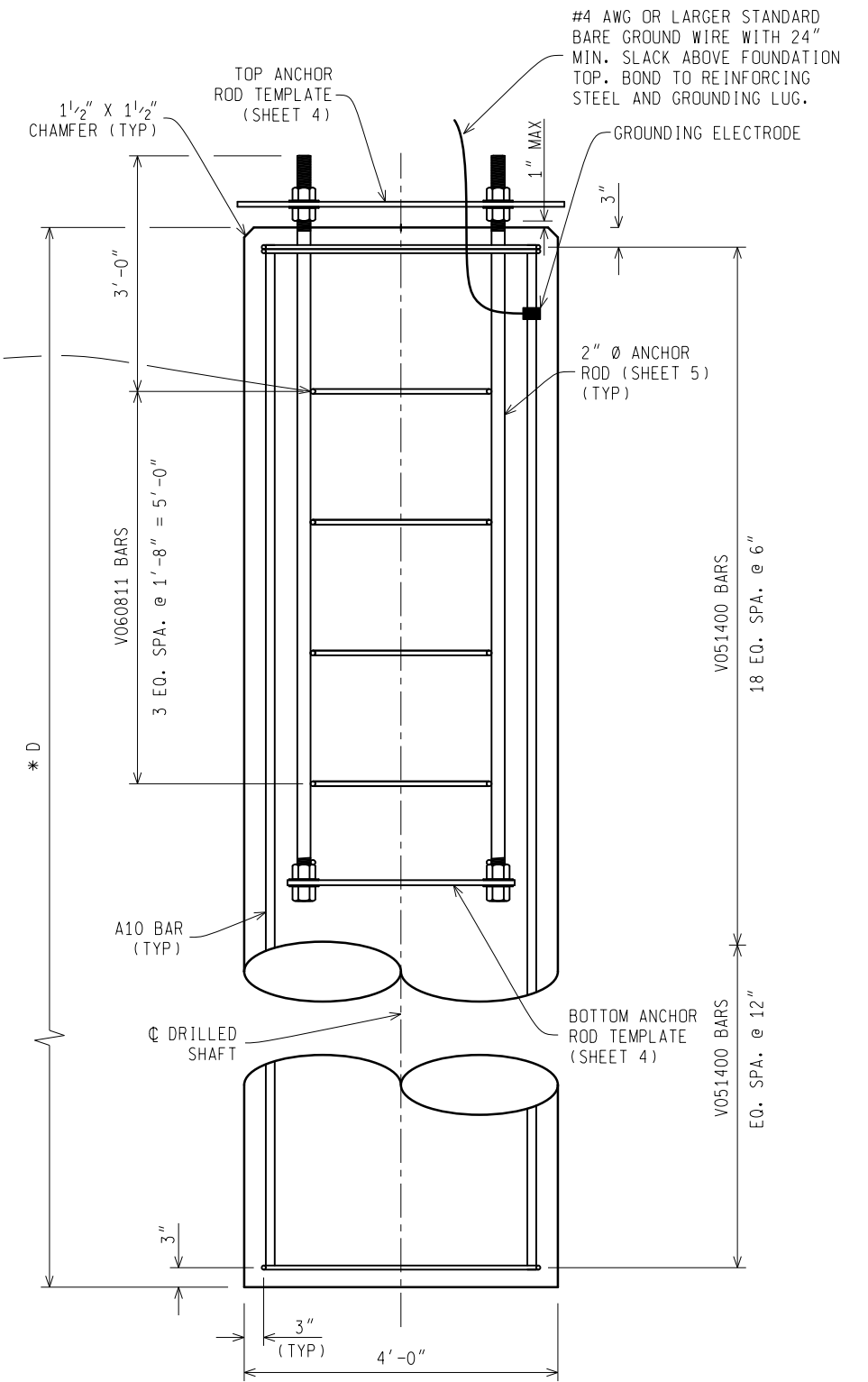
PLAN VIEW - TYPE B DRILLED SHAFT IN BARRIER WALL

* CONTRACTOR TO VERIFY D04 BARS DO NOT CONFLICT WITH ANCHOR RODS.
 ** CONTRACTOR TO DETERMINE DIMENSIONS FOR D04 AND K04 BARS BASED ON LIMITS OF REMOVAL, TYPE OF BARRIER, AND CLEAR COVER REQUIREMENTS SPECIFIED HEREIN.

Rev.

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	ENGINEER OF DELIVERY	MICHIGAN DEPARTMENT OF TRANSPORTATION DMS SIGN SUPPORT FOUNDATION		
	ENGINEER OF DEVELOPMENT			
PREPARED BY ANCILLARY STRUCTURES	(SPECIAL DETAIL) FHWA APPROVAL DATE	08/08/23 PLAN DATE	ITS-032-A	SHEET 1 of 6



ANCHOR ROD CAGE SHALL BE SHOP FABRICATED FROM #6 BAR CIRCLE OR 3/4" SQUARE STOCK OR APPROVED EQUAL AND TIED OR WELDED TO INSIDE OF ANCHOR RODS TO HOLD ALIGNMENT. NO FIELD WELDING IS ALLOWED. SHOP WELDING SHALL BE PERFORMED BY A CERTIFIED WELDER. NO CROSS BRACING IS ALLOWED IN THE CENTER OF THE ANCHOR ROD CIRCLE. (TYP)

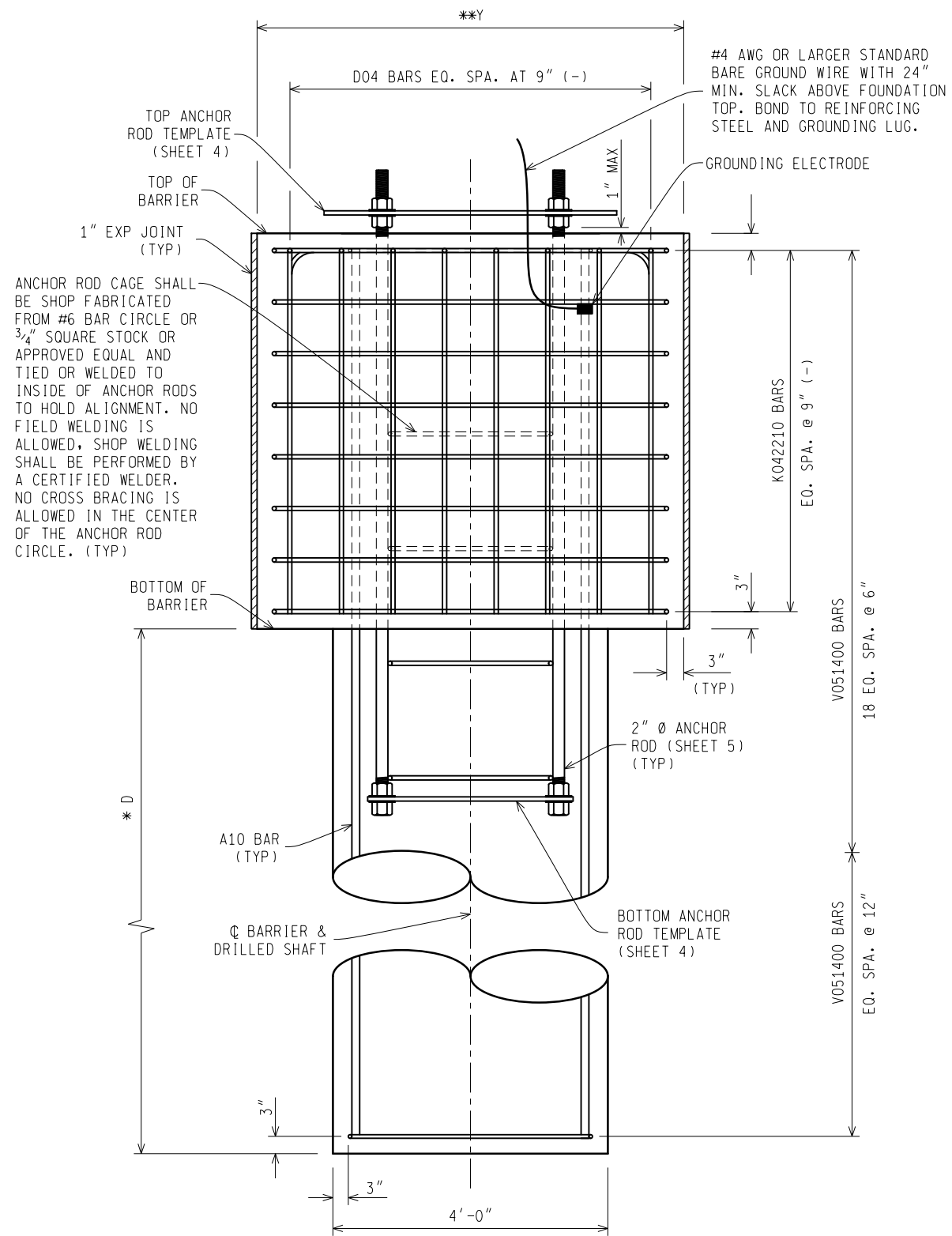
ELEVATION VIEW - TYPE A DRILLED SHAFT

* SEE CONTRACT PLANS FOR DEPTH OF DRILLED SHAFT.

Rev.

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MICHIGAN DEPARTMENT OF TRANSPORTATION	(SPECIAL DETAIL) FHWA APPROVAL DATE	08/08/23 PLAN DATE	ITS-032-A	SHEET 2 of 6
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ELEVATION VIEW - TYPE B DRILLED SHAFT IN BARRIER WALL

* SEE CONTRACT PLANS FOR DEPTH OF DRILLED SHAFT.

** CONTRACTOR TO DETERMINE DIMENSIONS FOR D04 AND K04 BARS BASED ON LIMITS OF REMOVAL, TYPE OF BARRIER, AND CLEAR COVER REQUIREMENTS SPECIFIED HEREIN.

Rev.

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MICHIGAN DEPARTMENT OF TRANSPORTATION

(SPECIAL DETAIL)
FHWA APPROVAL DATE

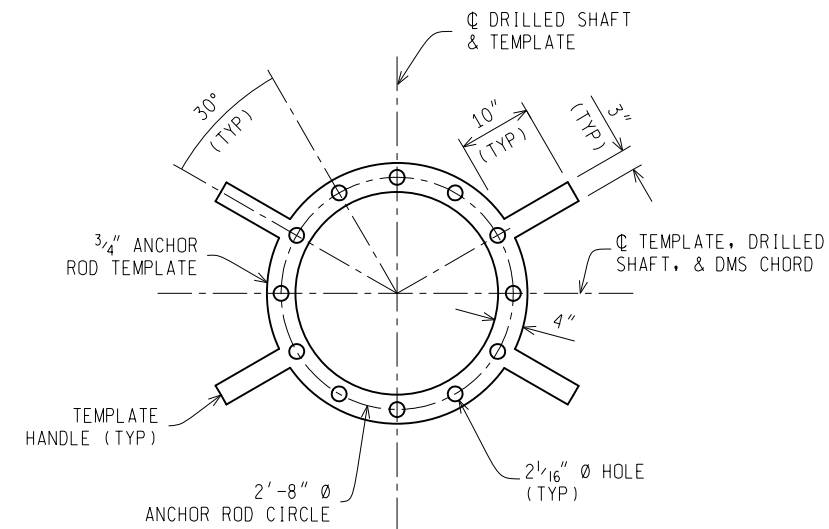
08/08/23
PLAN DATE

ITS-032-A

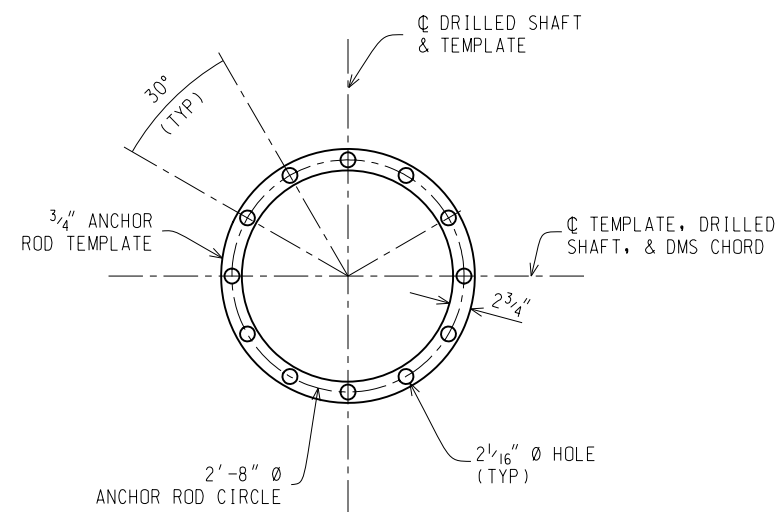
SHEET
3 of 6

NOTES:

1. THE FINISHED GRADE FOR ROADSIDE SIGNS INSTALLED ON SLOPES IS THE UPSLOPE SIDE OF THE DRILLED SHAFT.
2. WELD V06 ANCHOR ROD CAGE BAR REINFORCEMENT IN ACCORDANCE WITH AWS D1.4 USING E8018 OR E9018 ELECTRODES. SEE SHEET 6 OF 6 FOR WELD DETAILS.
3. SUBSURFACE AND GROUNDWATER INFORMATION WILL BE OBTAINED FROM THE SOIL BORING LOG INFORMATION.
4. V06 ANCHOR ROD CAGE BAR REINFORCEMENT SHALL MEET THE REQUIREMENTS OF ASTM A706 IF WELDED TO THE ANCHOR RODS.
5. TOP AND BOTTOM ANCHOR ROD TEMPLATES MAY BE FABRICATED FROM MULTIPLE PARTS USING CJP WELDS LOCATED A MINIMUM OF 2" CLEAR OF ANCHOR ROD HOLES.
6. ANCHOR RODS SHALL BE IN ACCORDANCE WITH SUBSECTION 908.14 OF THE MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.



TOP ANCHOR ROD TEMPLATE DETAIL



BOTTOM ANCHOR ROD TEMPLATE DETAIL

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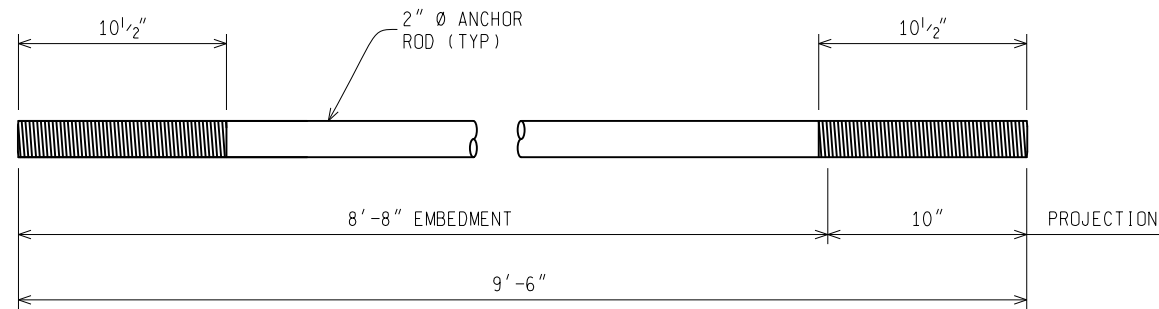
MICHIGAN DEPARTMENT OF TRANSPORTATION

(SPECIAL DETAIL)
FHWA APPROVAL DATE

08/08/23
PLAN DATE

ITS-032-A

SHEET
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ANCHOR ROD DETAIL

FOUNDATION CHART					
SOIL TYPE	SOIL CONDITION		DIAMETER (in)	DEPTH "D" (ft)	CONCRETE (cyd)
	*Su	**N60			
LOW SAND	-	5 < N60 < 10	48	26	12.1
MED SAND	-	10 < N60 < 20		22	10.2
HIGH SAND	-	N60 > 20		20	9.3
LOW CLAY	400 < Su < 1000	-		37	17.2
MED CLAY	1000 < Su < 2000	-		21	9.8
HIGH CLAY	Su > 2000	-		17	7.9

* Su = Undrained shear strength of cohesive soils. (lbs/ft²)

** N60 = SPT blow count corrected for hammer efficiency. (blows/ft) (ASTM testing procedure D1586)

MISCELLANEOUS QUANTITIES

(FOR INFORMATION ONLY)

- * STEEL WEIGHT = 16,398 Lbs
- CONDUIT, 1 INCH = 8.5 Ft
- CONDUIT, 3 INCH = 10.5 Ft
- CONDUIT, 1 1/2 INCH = 10.0 Ft
- ** SUBSTRUCTURE CONCRETE = 0.465 CY/Ft
- STEEL REINFORCEMENT = 70 Lb/Ft
- SAFETY GATE = 1 Eq.

* STEEL WEIGHT INCLUDES COLUMN, CHORDS, DIAGONALS, VERTICALS, GUSSET PLATES, BASE PLATES, HORIZONTAL PLATFORM SUPPORTS, VERTICAL PLATFORM SUPPORTS, STIFFENER PLATES, U BOLTS, ANCHOR BOLTS, BOLTS FOR ALL OTHER CONNECTIONS, LADDER RUNGS, LADDER BARS, AND KICK PLATE. COLUMN HEIGHT IS BASED ON A 32 FT DIMENSION FROM THE TOP OF THE BASE PLATE TO THE CENTER OF THE BOTTOM CHORD.

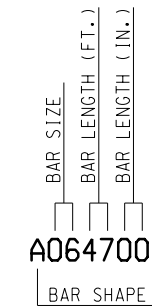
** STEEL REINFORCEMENT WEIGHT IS IN TERMS OF LBS/FT OF DRILLED SHAFT LENGTH. THIS DOES NOT INCLUDE THE REINFORCING BARS FOR THE MEDIAN BARRIER.

Rev.

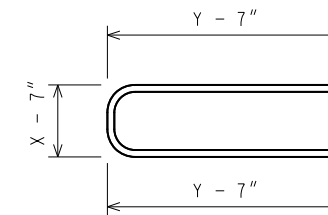
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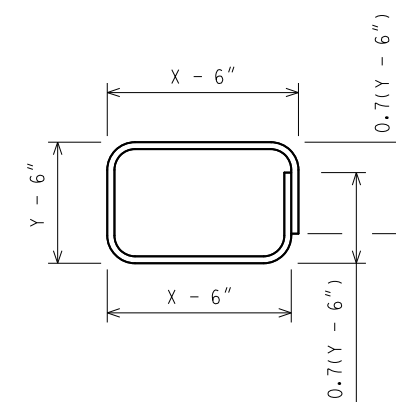
A BAR



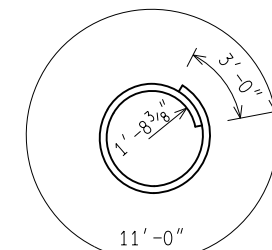
BAR LEGEND



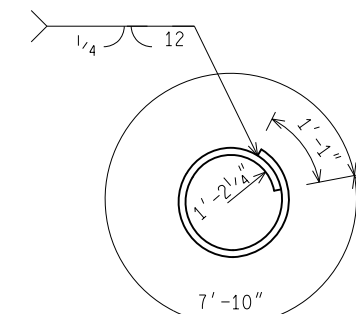
D041509



K042210



V051400



V060811

REINFORCEMENT DETAILS

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