

Design Assumptions for  
Nebraska Base Drawing NE100-10-002  
Metal Pipe Riser with Metal Stoplog Control

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New drawing: 07/01

**Metal Pipe Riser with Metal Stoplog Control**

Use of the riser is permitted only as outlined in FOTG Section 4 – POND (378).

The riser gauge is determined by criteria contained in Table 3, FOTG Section 4 – POND (378).

The coating requirements are determined by criteria contained in EFM NB 6-34 a-h for corrosion resistance. The need for watertight bands is outlined in FOTG Section 4 – POND (378).

The installation is to be used where the riser is surrounded by embankment to protect it from ice action and buoyancy.

The installations have been designed for buoyancy conditions up to 8.0' high. Consult with the State Engineering Office if there is a need for a longer riser.

Pages 127 through 130, Chapter 3 of the EFH contains Hydraulic Tables for this type of installation.

Corrugation size (3 x 1) and (5 x 1) are only available in 36" dia. pipe and larger.

If the PI (plasticity index) of the soil in the embankment is less than 15, the inlet area will be armor coated or have a concrete apron.

Instructions for  
Nebraska Base Drawing NE100-10-002  
Metal Pipe Riser with Metal Stoplog Control

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Fill in the following data fields to automatically fill in the necessary data fields on the drawing.

**Title block**

Title line(s)

Subtitle line

County, State

Sheet number                      of

**Who / When**

Designed

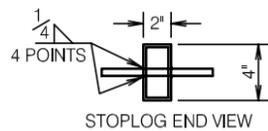
Drawn

Checked

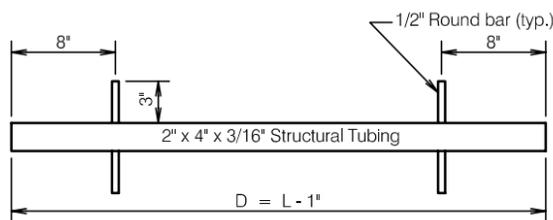
**Enter directly on drawing**

Left click yellow boxes to mark with X as required.

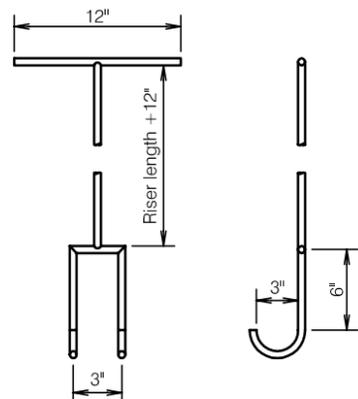
Left click blue data fields to enter required information.



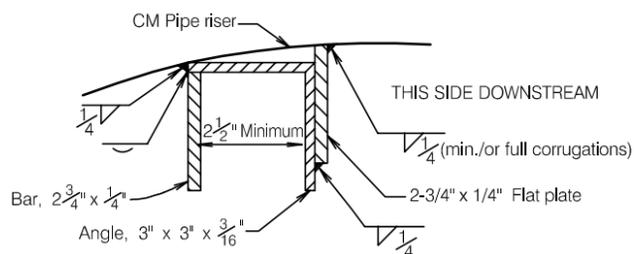
STOPLOG END VIEW



STRUCTURAL TUBING STOPLOG DETAIL

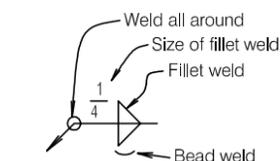


STOPLOG LIFTING HOOK DETAIL  
2 REQUIRED

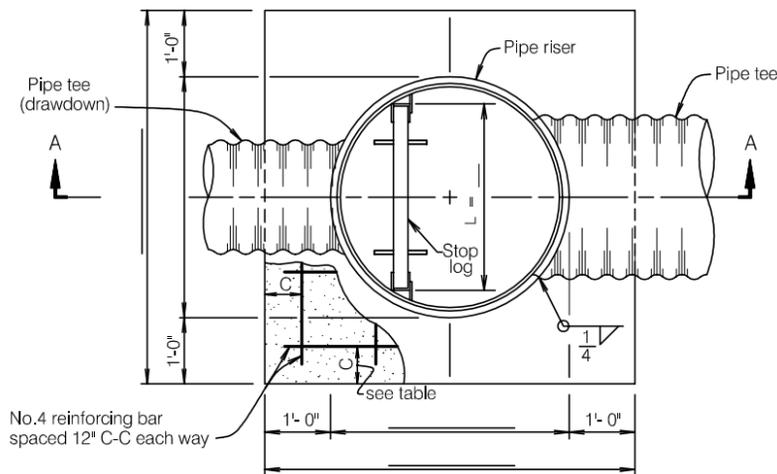


DETAIL OF CHANNEL

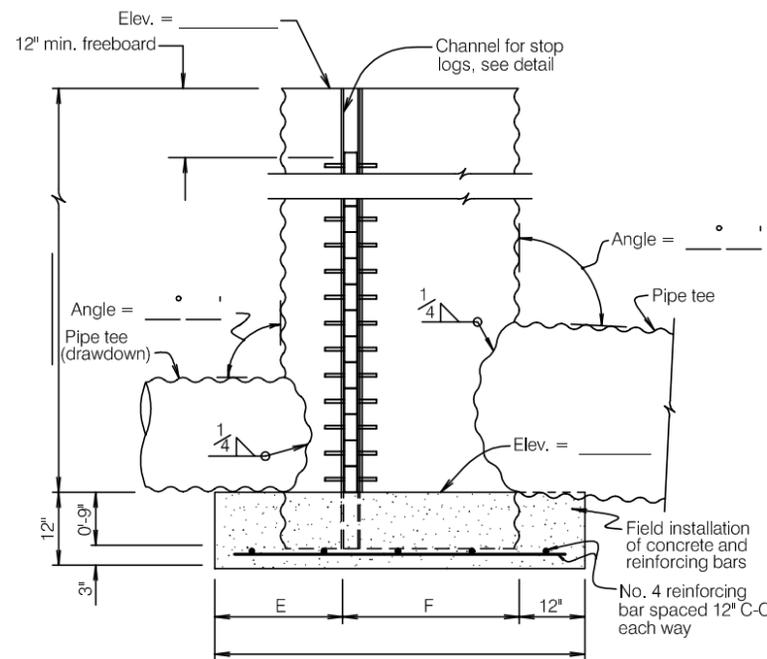
WELD SYMBOLS



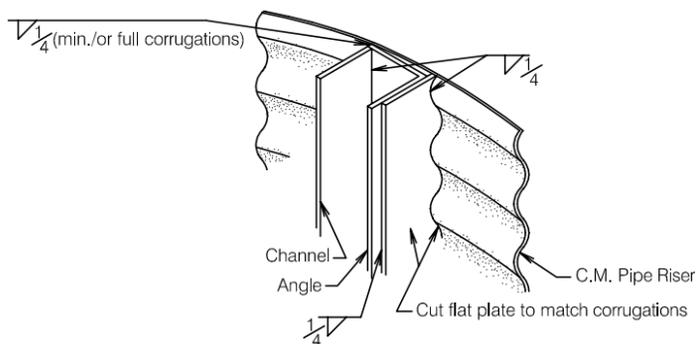
NOTE:  
Weld symbol placed above line indicates weld is on opposite side of joint to which arrow points.  
Weld symbol below line indicates weld is on side of joint to which arrow points.



PLAN



SECTIONAL ELEVATION A-A  
STOP LOG FLOW CONTROL- FULL RISER



CHANNEL INSTALLATION

REQUIREMENT TABLE

X IN BOX INDICATES THE REQUIREMENTS THAT APPLY TO STRUCTURE    INDICATES - NOT APPLICABLE

CONCRETE: CLASS  3000  3000M  4000  CU.YD.  
 REINFORCING STEEL:  LB.

CORRUGATED METAL PIPE RISER, \_\_\_\_\_" DIA., \_\_\_\_\_ GA., \_\_\_\_\_ FT.  
 NOMINAL LENGTH WITH A \_\_\_\_\_" DIA., \_\_\_\_\_ GA., PIPE TEE \_\_\_\_\_ FT. NOMINAL LENGTH  
 WELDED TO IT 9" FROM THE LOWER END, AND A \_\_\_\_\_" DIA., \_\_\_\_\_ GA. PIPE TEE  
 (DRAWDOWN) \_\_\_\_\_ FT. NOMINAL LENGTH WELDED TO IT \_\_\_\_\_" FROM THE LOWER END

PIPE CLASSIFICATION	RISER	PIPE TEE	DRAWDOWN
ANNULAR CORRUGATION _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HELICAL CORRUGATION _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> TYPE I, FULL CIRCULAR CROSS-SECTION FABRICATED _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> TYPE II, THIS IS TYPE I PIPE WHICH HAS BEEN REFORMED INTO A PIPE ARCH HAVING APPROXIMATELY A FLAT BOTTOM _____		<input type="checkbox"/>	
CORRUGATION REQUIREMENTS - NOMINAL SIZE (INCH)			
<input type="checkbox"/> 2 2/3 x 1/2 _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 3 x 1 _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COATINGS AND FABRICATION			
SEE METAL PIPE REQUIREMENTS AND COUPLING BANDS SHEET			

FABRICATION AND INSTALLATION NOTES:

- FOR FABRICATION OF RISERS ON HELICAL PIPE A FILLER STRIP MAY BE USED TO INSURE A WATERTIGHT SEAL BETWEEN THE RISER AND TEE.
- WHEN MORE THAN ONE COATING IS CHECKED IN THE COLUMN BOXES EACH TYPE IS ACCEPTABLE BUT ONLY ONE TYPE OF COATING SHALL BE USED IN EACH INSTALLATION.
- THE FOLLOWING ARE ACCEPTABLE SUBSTITUTIONS FOR THE CHANNEL DETAIL SHOWN:  
 A: C 3x5 AMERICAN STANDARD CHANNEL  
 B: 2 EACH - ANGLE, 2 x 1-1/2 x 3/16, WELD THE 1-1/2" LEGS TOGETHER USING 1/4" FILLET WELD, BOTH SIDES.
- ALL ANGLES AND BARS TO BE SECURELY WELDED AS SHOWN ON THE PLANS IN ACCORDANCE WITH SPECIFICATIONS.
- ALL WELDS AND HEAT AFFECTED AREAS ON GALVANIZED METAL TO BE TREATED IN ACCORDANCE WITH SPECIFICATIONS.
- NO.4 REINFORCED BAR = 1/2" DIA. = 0.668 LB. PER LIN. FT.
- CHANNEL DETAIL  
 ANGLE, 3 x 3 x 3/16 = 3.7 LB. PER LIN. FT.  
 BAR, 2-3/4 x 1/4 = 2.3 LB. PER LIN. FT. (2 REQD.)  
 TOTAL WEIGHT = 8.3 LB. PER LIN. FT.
- ALL SEAMS CUT, DUE TO FABRICATING IN HELICAL PIPE, SHALL BE WELDED FOR A LENGTH OF 1" FROM THE EDGE OF THE CUT AND TREATED ACCORDING TO SPECIFICATIONS.
- THE "L" DIMENSION OF THE RISER SHALL BE CHECKED PRIOR TO FABRICATION OF THE STRUCTURAL TUBING LENGTH.

TABLE OF QUANTITIES FOR RISER BASES

ITEM	UNIT	QUANTITY
CONCRETE	CU.YDS.	
REINFORCED STEEL (RISER BASE ONLY)	LBS.	
FABRICATED CHANNEL, _____ FT.	LBS.	
2" x 4" x 3/16" STRUCTURAL TUBING STOP LOG NO. _____ LENGTH EACH	LIN.FT.	
1/2" ROUND BAR (STOPLOG LIFTING HOOK)	EACH	2

MATERIAL LIST FOR RISER CONCRETE BASE

DIA. OF RISER IN INCHES	48	54	60	66	72	78
CONCRETE, CU.YDS.	1.33	1.56	1.81	2.08	2.37	2.68
NO. 4 REINFORCING BAR, LIN.FT.	66	84	91	112	120	144
LENGTH OF EACH BAR, FT.-IN.	5-6	6-0	6-6	7-0	7-6	8-0
TOTAL NUMBER OF BARS	12	14	14	16	16	18
TOTAL WEIGHT - NO. 4 BARS, LBS.	44.1	56.1	60.8	74.8	80.2	96.2

NO. 4 REINFORCING BAR = 1/2 IN. DIA. = 0.668 LBS./LIN.FT.

TABLE FOR DIMENSIONS

DIA. OF RISER IN INCHES	48	54	60	66	72	78
C SPACING IN INCHES	6	3	6	3	6	3
FOR L = 4' - 0"						
E SPACING IN FT./IN	3'-0"	2'-3"	2'-0"	1'-10"	1'-9"	1'-8"
F SPACING IN FT./IN	2'-0"	3'-3"	4'-0"	4'-8"	5'-3"	5'-10"
FOR L = 4' - 6"						
E SPACING IN FT./IN	3'-3"	2'-5"	2'-2"	2'-0"	1'-11"	
F SPACING IN FT./IN	2'-3"	3'-7"	4'-4"	5'-0"	5'-7"	
FOR L = 5' - 0"						
E SPACING IN FT./IN	3'-6"	2'-7"	2'-4"	2'-2"		
F SPACING IN FT./IN	2'-6"	3'-11"	4'-8"	5'-4"		

METAL PIPE RISER WITH  
METAL STOPLOG CONTROL