

Design Assumptions for  
Nebraska Base Drawing NE100-10-004  
Concrete Base Metal Pipe Riser and Flange  
Drawdown Facility

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Revised: 5/6/09 Replaces: 5001-32

**Concrete Base Metal Pipe Riser and Flange Drawdown Facility**

The pipe gage is determined by criteria contained in Table 3, Standard 378.

The coating requirements are determined by criteria contained in E.F.M. NB6-34 for corrosion resistance. The need for watertight band is outlined in Standard 378.

This type of drawdown should not be installed where there is a need to open it on a regular basis.

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

The inlet to the drawdown should be placed below an anticipated ice depth to protect it from ice action.

NEM NE501.80 states the requirements and criteria of drawdown installations with reference to Department of Water Resources (Surface Water Chapter 46).

Corrugation size (3x1) and (5x1) are only available in 36" dia. pipe and larger.

Use a minimum 30" dia. pipe riser to facilitate installation and removal of drawdown plate.

Riser base length and width are to be the same.

Instructions for  
NE Base Drawing NE100-10-004  
Concrete Base Metal Pipe Riser and Flange Drawdown Facility

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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

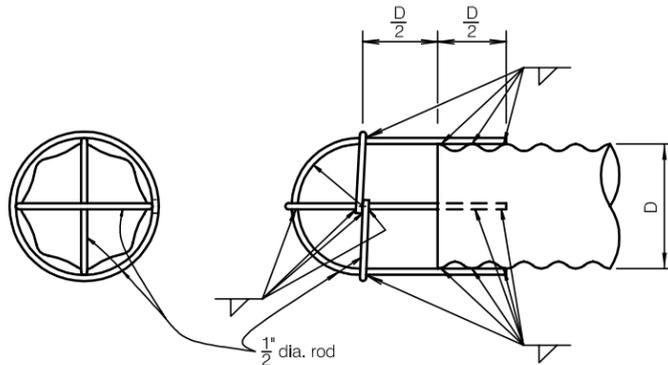
**Fill data directly on drawing**

Left click yellow boxes on drawing to mark with X as required.  
Left click blue data fields to enter required data.

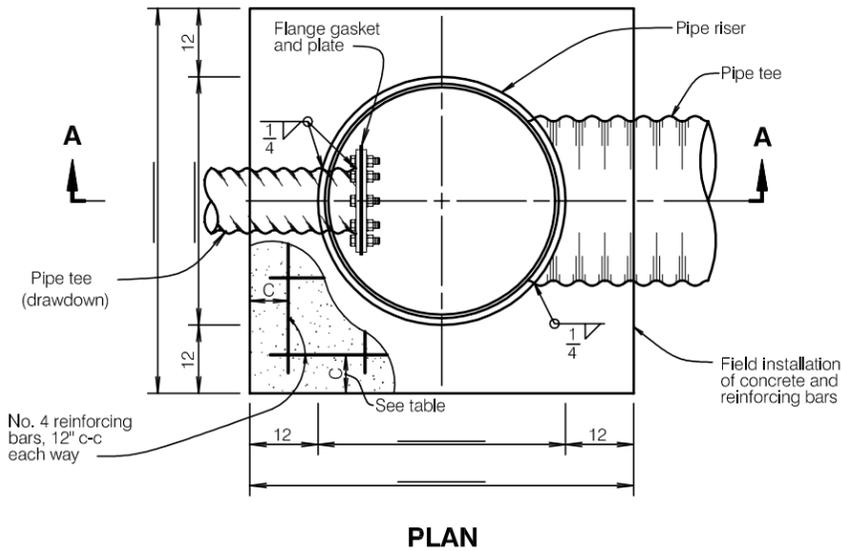
**DRAWDOWN TRASH RACK ROD LENGTHS**

PIPE DIA. INCHES	* ROD LENGTH INCHES	** CIRCULAR ROD LENGTH-INCHES
8	30	35
10	37	41
12	44	47
15	54	57

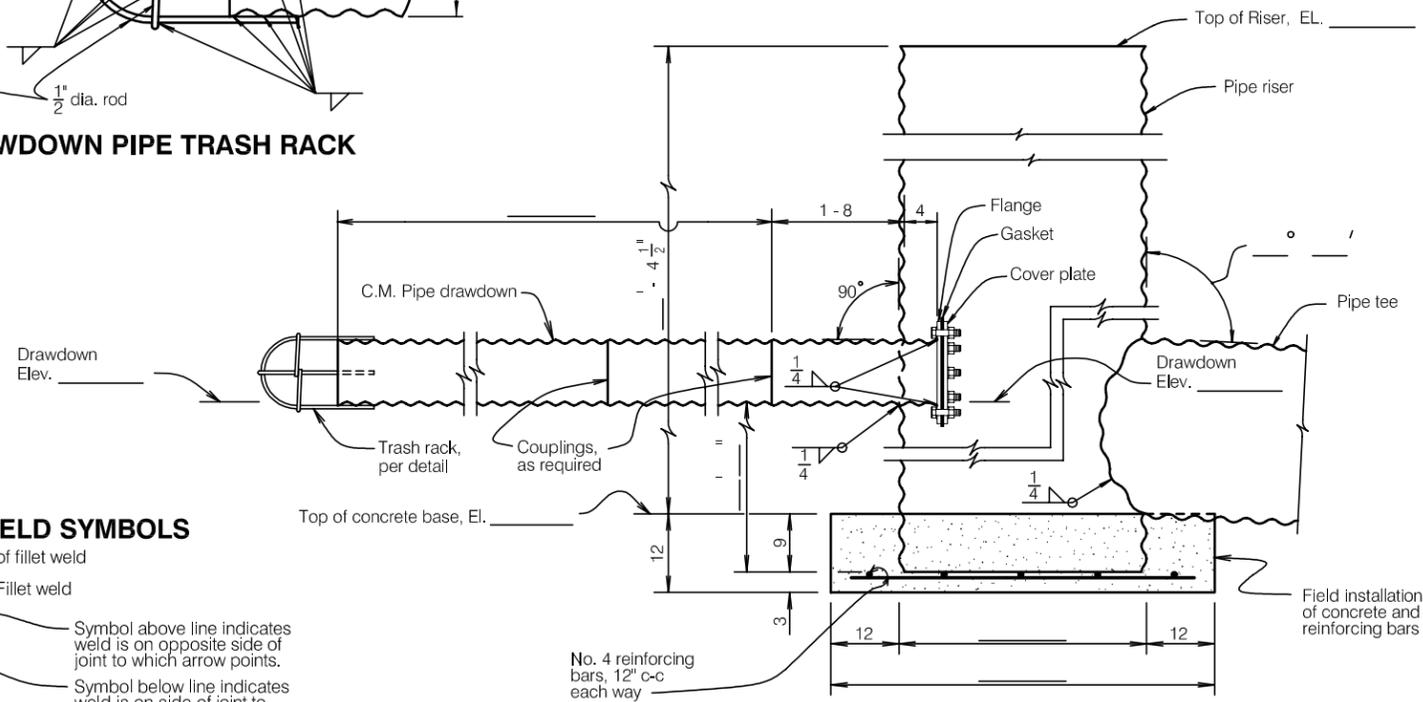
\* 2 RODS REQUIRED.  
 \*\* APPROXIMATE 2" LAP.  
 RODS TO BE ZINC COATED OR PAINTED ACCORDING TO SPECIFICATIONS.  
 1/2" DIA. ROD = 0.668 LB./FT.



**DRAWDOWN PIPE TRASH RACK**

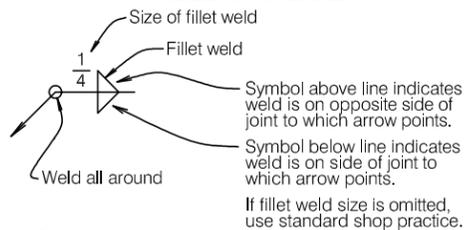


**PLAN**



**SECTIONAL ELEVATION A-A  
RISER DETAIL**

**WELD SYMBOLS**



NOTE:  
 ALL WELDS AND HEAT AFFECTED AREAS TO BE TREATED IN ACCORDANCE WITH SPECIFICATIONS.  
 MATERIALS NOT COATED OR GALVANIZED SHALL BE PAINTED ACCORDING TO PAINT SYSTEM "C" OF PAINT SPECIFICATIONS.

**PIPE FLANGE NOTE:**

USE 1/2" FLANGE ON \_\_\_\_\_" DIA. DRAWDOWN. FLANGE DIA., BOLT SIZE AND PATTERN SHALL BE ACCORDING TO AWWA C-207, CLASS B. PROVIDE A 1/4" THICK PLATE, SAME DIA. AS FLANGE WITH HOLES DRILLED TO MATCH HOLES IN FLANGE. PROVIDE NEOPRENE GASKET TO FIT BETWEEN PLATE AND FLANGE. FASTEN PLATE TO FLANGE WITH 8 - 1/2" DIA. x 2" GALVANIZED BOLTS AND WASHERS.

**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.

**NOTE:**

THE FOLLOWING DESIGNATIONS FOR PIPE CLASSIFICATIONS, CORRUGATIONS AND COATINGS WHEN REFERRED TO ON THE DRAWINGS ARE IN ACCORDANCE WITH CURRENT ASTM'S:

A760 STANDARD SPECIFICATION FOR CORRUGATED STEEL PIPE, METALLIC-COATED.

A761 STANDARD SPECIFICATION FOR STEEL, GALVANIZED CORRUGATED STRUCTURAL PLATES AND FASTENERS.

A762 STANDARD SPECIFICATION FOR CORRUGATED STEEL PIPE, POLYMER PRECOATED FOR SEWERS AND DRAINS.

A849 STANDARD SPECIFICATION FOR POST-COATED AND LINED CORRUGATED STEEL SEWER AND DRAINAGE PIPE (BITUMINOUS OR CONCRETE)

A885 STANDARD SPECIFICATION OF STEEL SHEET, ZINC AND ARAMID FIBER COMPOSITE-COATED FOR CORRUGATED STEEL SEWER, CULVERT AND UNDERDRAIN PIPE.

**TABLE OF QUANTITIES FOR CONCRETE RISER BASE**

DIA. OF RISER IN INCHES	30	36	42	48	54	60	66	72
CONCRETE, CU.YDS.	0.75	0.93	1.12	1.33	1.56	1.81	2.08	2.37
NO. 4 REINFORCING BAR, LIN.FT.	40	45	60	66	84	91	112	120
LENGTH OF EACH BAR, FT.-IN.	4-0	4-6	5-0	5-6	6-0	6-6	7-0	7-6
TOTAL NUMBER OF BARS	10	10	12	12	14	14	16	16
TOTAL WEIGHT - NO. 4 BARS, LBS.	26.7	30.0	40.1	44.1	56.1	60.8	74.8	80.2

**TABLE FOR DIMENSION C**

DIA. OF RISER IN INCHES	30	36	42	48	54	60	66	72
C SPACING IN INCHES	3	6	3	6	3	6	3	6

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

**REQUIREMENT TABLE**

PIPE CLASSIFICATION	RISER	PIPE TEE	DRAWDOWN
TYPE I FULL CIRCULAR CROSS-SECTION FABRICATED WITH:			
<input type="checkbox"/> ANNULAR CORRUGATIONS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> CLOSE RIVETED OR <input type="checkbox"/> STANDARD RIVETED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> HELICAL CORRUGATIONS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CORRUGATION REQUIREMENTS			
NOMINAL SIZE (INCH)			
<input type="checkbox"/> 1 1/2 x 1/4 (AVAILABLE ONLY IN HELICALLY CORRUGATED PIPE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<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 checked="" type="checkbox"/>
<input type="checkbox"/> 5 x 1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
COATINGS AND FABRICATION			
SEE COUPLING BAND AND METAL PIPE REQUIREMENTS SHEET			

Date \_\_\_\_\_  
 Designed \_\_\_\_\_  
 Drawn \_\_\_\_\_  
 Checked \_\_\_\_\_  
 Approved \_\_\_\_\_