

Design Assumptions for
Nebraska Base Drawing NE100-30-008
Cathodic Protection System

Revised: 11/03 Replaces: 5005-1

Cathodic Protection System

Design criteria is contained in Engineering Field Handbook, Chapter 6, Nebraska Supplement and Standard 378.

Instructions for Nebraska Base Drawing NE100-30-008 Cathodic Protection System

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

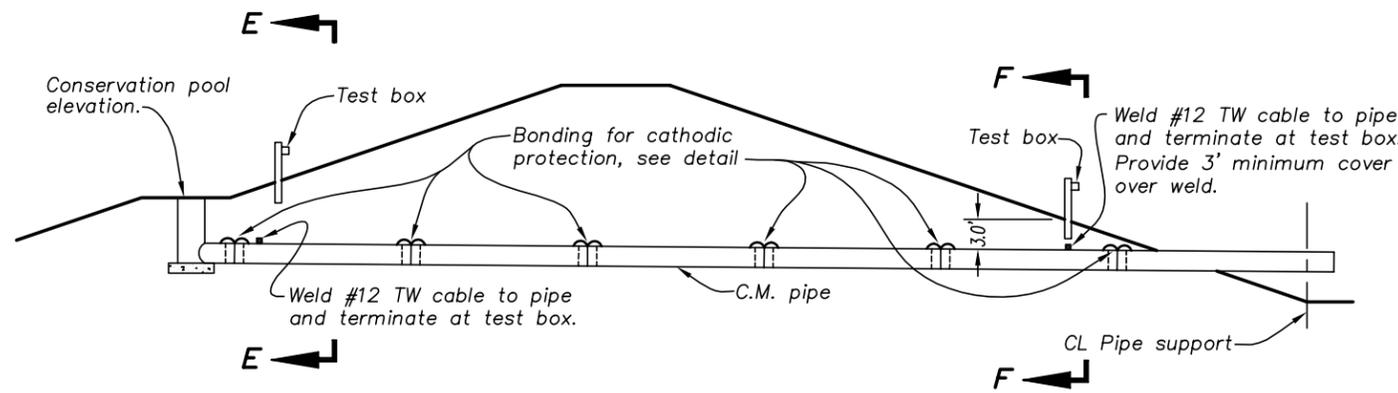
Designed

Drawn

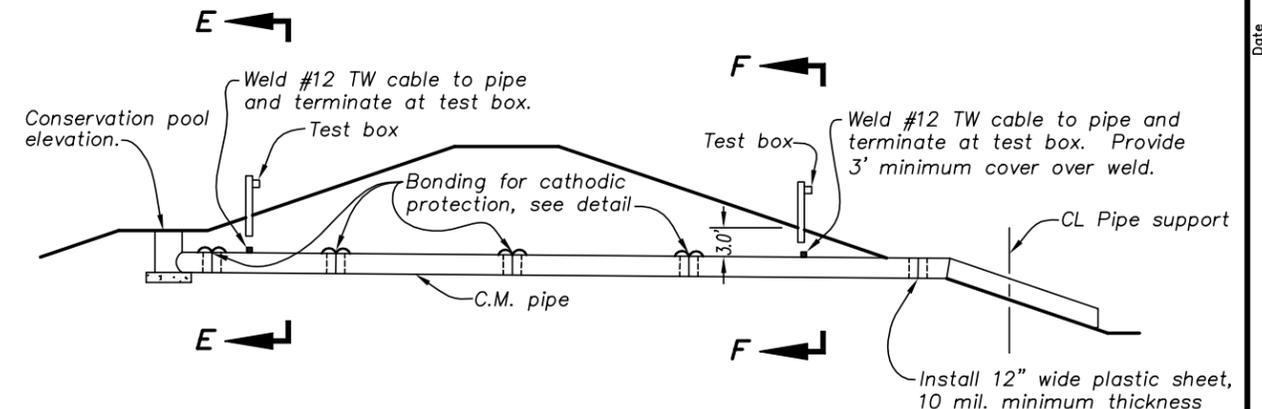
Checked

Enter directly on drawing

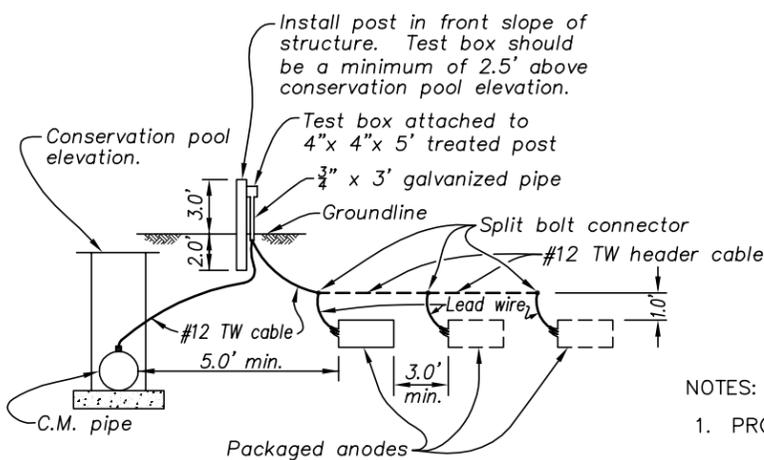
Left click on yellow boxes on drawing to mark with X as required.
Left click blue data fields to enter required information.



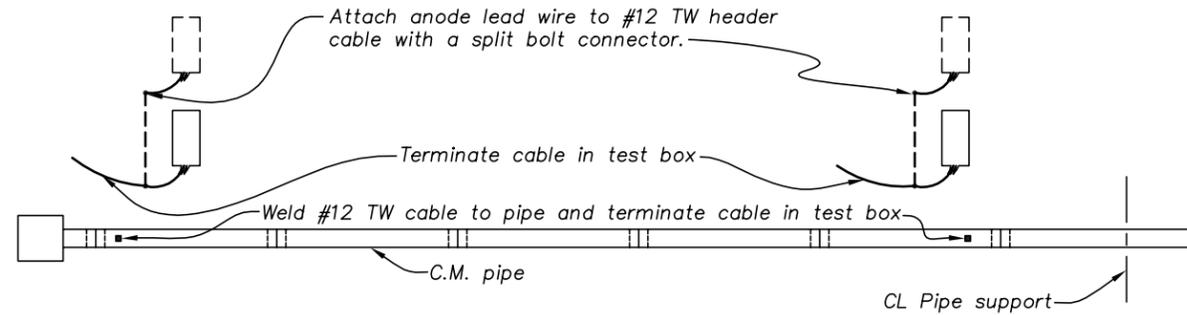
**DETAIL A
C.M. PIPE OUTLET**



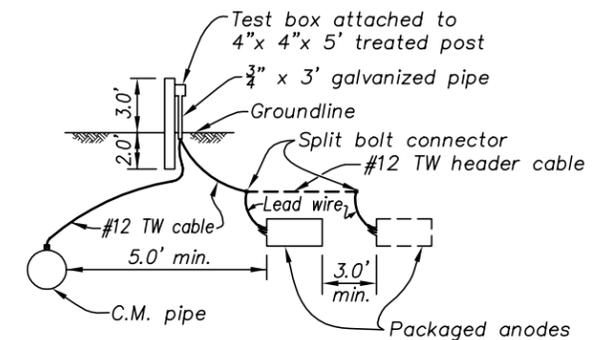
**DETAIL B
SLOTTED FLUME C.M. PIPE OUTLET**



**PACKAGED MAGNESIUM ANODES
(Upstream)
SECTION E-E**



PLAN VIEW OF ANODE DETAIL



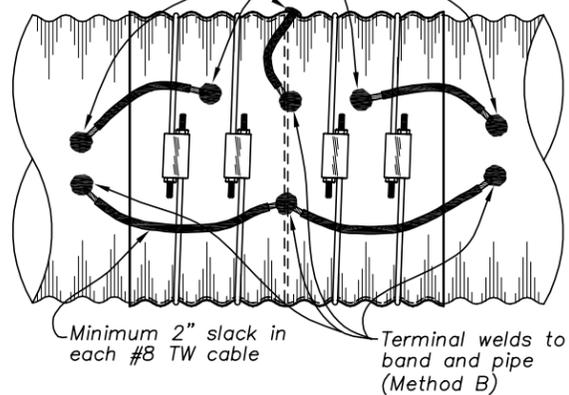
**PACKAGED MAGNESIUM ANODES
(Downstream)
SECTION F-F**

NOTES:

- PROVIDE 3' MINIMUM COVER OVER ALL ANODES.
- ANODES SHALL BE SATURATED WITH WATER AT THE TIME OF INSTALLATION.
- AREAS AROUND WELD CONNECTIONS SHALL BE ROUGHENED AND CLEANED TO EXPOSE THE BASE METAL TO PROVIDE GOOD CONDUCTIVITY.
- TERMINAL WELDS ON BANDS SHOULD BE PLACED OUTSIDE OF BAND LAP AREA TO AVOID INTERFERENCE WITH LAP.
- THE CABLE WILL BE SUPPLIED WITH A NEOPRENE COATING OR TO BE WRAPPED WITH AT LEAST 2 LAYERS OF 12 MIL. NEOPRENE TAPE.
- ALL CABLE WELDS AND CONNECTORS SHALL BE WRAPPED WITH AT LEAST 2 LAYERS OF 12 MIL. NEOPRENE TAPE.
- AFTER WELDING, ALL EXPOSED METAL SHALL BE COATED AS SPECIFIED FOR PATCHING DAMAGED PIPE COATING.
- WHEN DETAIL A IS USED, INSULATE 3/4" DIA. HOLDDOWN ROD ON PIPE SUPPORT FROM PIPE WITH 2 LAYERS OF 12 MIL. NEOPRENE TAPE OR EQUIVALENT PLASTIC HOSE.
- ON PIPE SUPPORTS MADE OF STRUCTURAL STEEL, INSULATE PIPE FROM METAL CRADLE WITH 2 LAYERS OF 12 MIL. PLASTIC SHEETS.
- FOR TERMINAL WELDS TO BAND AND PIPE METHOD A OR B IS ACCEPTABLE.
- EACH CABLE SHALL BE ATTACHED TO A SEPARATE TERMINAL INSIDE THE TEST BOX AND CONNECTED TO OTHER CABLES WITH SHORTING BARS OR ATTACHED TOGETHER WITH SCREW-ON CONNECTORS.

#8 TW Jumper cable to be welded in a horizontal plane to lower section of 2 piece band prior to band installation. (For methods A and B)

Terminal welds to band and pipe. (Method A)



**PLAN VIEW DETAIL
CABLE FOR C.M. PIPE AND BANDS**

CABLE LENGTHS FOR BANDS

PIPE DIA. INCHES	1 PIECE BANDS FEET-INCHES	2 PIECE BANDS FEET-INCHES
12	4-0	5-6
15	4-0	5-6
18	4-0	5-6
21	4-0	6-0
24	4-0	6-0
30	4-0	6-6
36	4-0	7-0
42	4-0	7-0
48	4-0	7-6
54	6-0	10-0
60	6-0	10-6
66	6-0	11-0

TABLE OF QUANTITIES

ITEM	UNIT	QUANTITY
4" x 4" x 5', TREATED POSTS	EACH	
3/4" DIA. x 3' GALVANIZED POSTS	EACH	
TEST BOX - 2 3/4" WIDE x 4" HIGH (MINIMUM)	EACH	
* #8 TW CABLE, INCLUDING WELDS	LIN.FT.	
#12 TW CABLE, INCLUDING WELDS AND CONNECTORS	LIN.FT.	
32 LBS. PACKAGED MAGNESIUM ANODES: UPSTREAM DOWNSTREAM	EACH	

* WHEN W.S. PIPE AND COUPLINGS ARE USED, CABLE LENGTH IS 4.0 FT. PER COUPLING

REQUIREMENT TABLE

<input checked="" type="checkbox"/> X IN BOX INDICATES DETAIL THAT APPLIES TO STRUCTURE	
DETAIL A <input type="checkbox"/>	DETAIL B <input type="checkbox"/>
BANDS OR COUPLINGS TO BE BONDED	NO.
WELD CONNECTIONS <input type="checkbox"/> METHOD A <input type="checkbox"/> METHOD B	NO.
<input type="checkbox"/> 3 WELDS PER BAND FOR 1 PIECE BANDS.	
<input type="checkbox"/> 4 WELDS PER BAND FOR 1 PIECE BANDS.	
<input type="checkbox"/> 5 WELDS PER BAND FOR 2 PIECE BANDS.	
<input type="checkbox"/> 6 WELDS PER BAND FOR 2 PIECE BANDS.	
<input checked="" type="checkbox"/> 5 WELDS PER W.S. PIPE COUPLING.	
<input checked="" type="checkbox"/> 2 WELDS FOR TEST BOX TO PIPE LEADS.	