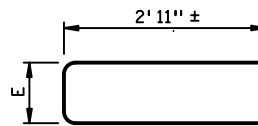
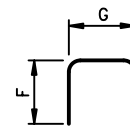


SIDE FRONT  
RODENT SHIELD ①

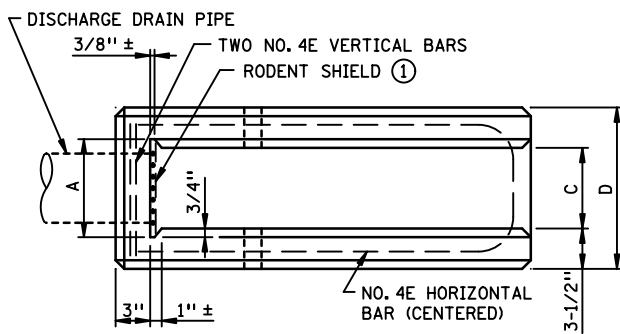
DIMENSIONS ARE APPROXIMATE TO ALLOW FOR BEND AND A SNUG FIT IN SLOT IN HEADWALL.



NO. 4E HORIZONTAL BAR



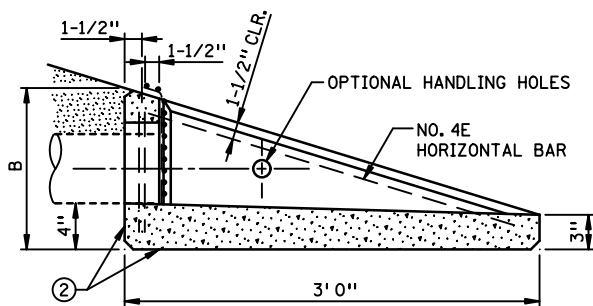
NO. 4E VERTICAL BAR  
( 2 REQUIRED )



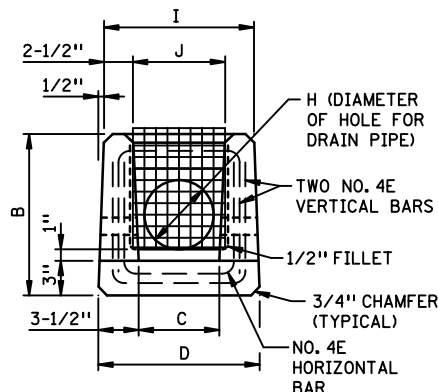
PLAN

DIMENSIONS	4" DIA. PIPE	6" DIA. PIPE	8" DIA. PIPE
A	6-1/2"	8-1/2"	10-1/2"
B	1' 0"	1' 2"	1' 4"
C	5"	7"	9"
D	1' 0"	1' 2"	1' 4"
E	8-1/2"	10-1/2"	1' 0-1/2"
F	9"	11"	1' 1"
G	9-1/2"	11-1/2"	1' 1-1/2"
H Δ	5"	7"	9-1/2"
I	11"	1' 1"	1' 3"
J	6"	8"	10"
APPROX. WT.	210 LBS.	250 LBS.	300 LBS.

Δ EXACT DIMENSION DEPENDENT ON COUPLING METHOD.



SECTION



END VIEW

NOTES:

ALL CONCRETE MATERIALS SHALL BE MN/DOT MIX DESIGNATION 3W46 AND/OR OTHER MIX AS APPROVED BY THE STATE MATERIALS ENGINEER. HEADWALLS SHALL NOT BE SHIPPED UNTIL CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF 5000 PSI. THE EPOXY BARS SHALL BE SECURELY RETAINED SO THEY ARE NOT DISPLACED DURING CONCRETE PLACEMENT. TIE WIRE SHALL BE EPOXY COATED. WELDING WILL NOT BE PERMITTED. THE FABRICATOR SHALL PROVIDE A QUALITY CONTROL PROGRAM APPROVED BY THE MATERIALS ENGINEER.

- ① THE RODENT SHIELD SHALL BE FABRICATED FROM CARBON STEEL FLATTENED EXPANDED METAL, STYLE 1/2" NO. 4F. IT SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION. ACTUAL SCREEN DIMENSIONS SHALL BE SUCH AS WILL SNUGLY FIT THE PROVIDED SLOT ( TAPERED IF NECESSARY ), WITH THE SCREEN LIP FITTING FLUSH WITH THE CASTING TOP AND THE BOTTOM FITTING TIGHT TO THE FLOW LINE.
- ② THE MANUFACTURER'S NAME AND DATE OF PRODUCTION ( MONTH AND YEAR ) SHALL BE CLEARLY CAST ( NOT INK STAMPED ) INTO EITHER THE BOTTOM OF EACH HEADWALL OR NEAR THE BOTTOM OF THE LARGE END . IF A MANUFACTURER HAS MORE THAN ONE PLANT, THEY SHALL BE APPROPRIATELY CODED.

APPROVED AUGUST 20, 2001

*[Signature]*  
STATE DESIGN ENGINEER

STATE OF MINNESOTA  
DEPARTMENT OF TRANSPORTATION

PRECAST CONCRETE HEADWALL  
FOR SUBSURFACE DRAINS

SPECIFICATION  
REFERENCE

2502

REVISED  
3-22-2013 M.J.E.

STANDARD  
PLATE  
NO.

3131C