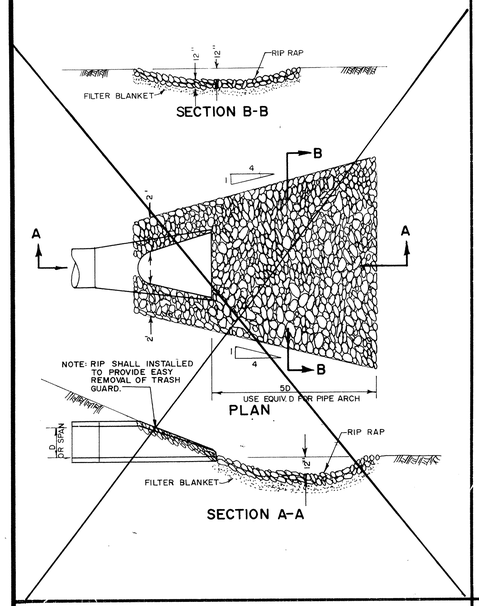
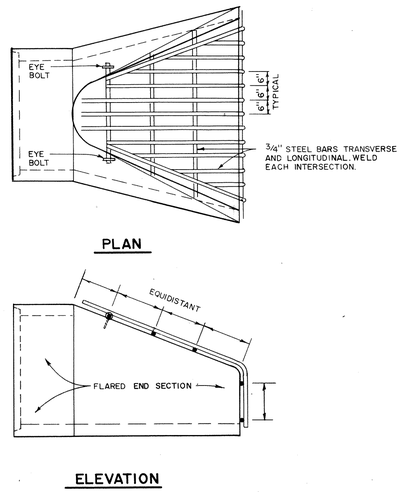
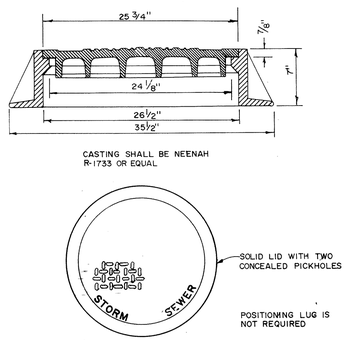
RIP-RAP INSTALLATION



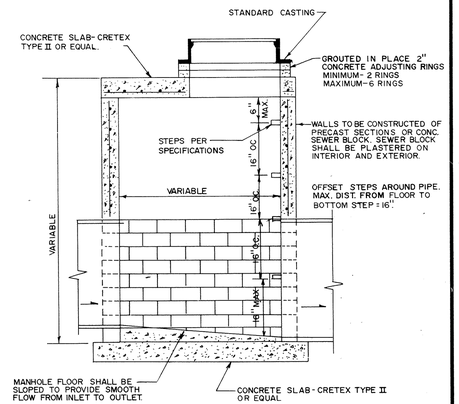
TRASH GUARD



STANDARD MANHOLE CASTING

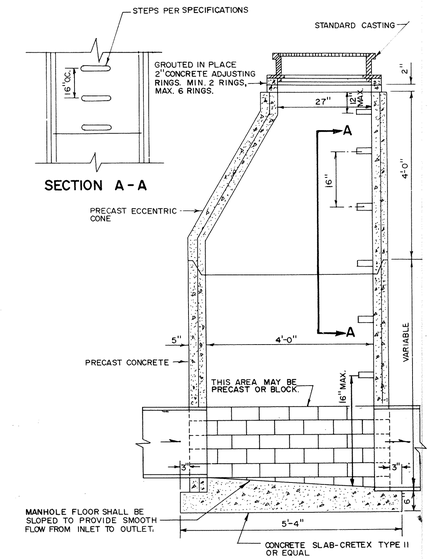


SLAB-TOP MANHOLE

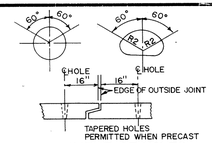


NOTE: THIS TYPE MH. SHALL BE USED WHEN SPECIFIED OR WHEN THE MANHOLE DEPTH IS LESS THAN 8.

STANDARD MANHOLE

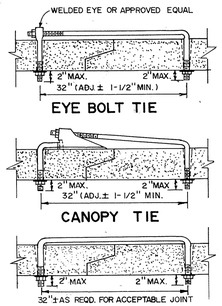


CONCRETE PIPE JOINT TIES



PLACEMENT OF HOLES

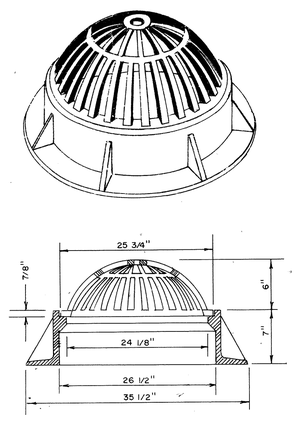
PIPE SIZE	THREAD DIAMETER
12 15 18 21 24 27	5/8" ROLLED THREADS (SEE NOTE 4)
30 33 36 42 48 54 60 66	3/4" CUT OR ROLLED
72 78 84 90 96 102 108 120 132	1" CUT OR ROLLED



NOTES:

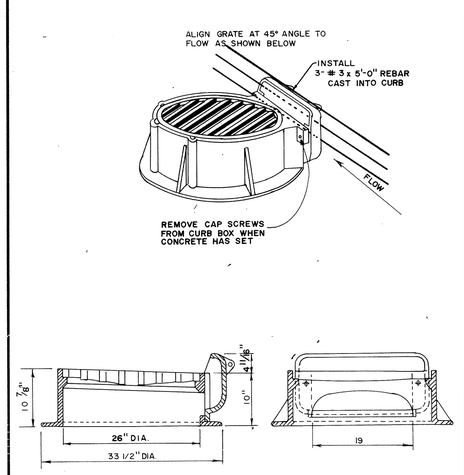
1. HOLES SHALL BE CAST-IN OR DRILLED 16" FROM OUTSIDE EDGE OF JOINT.
2. NUTS AND WASHERS ARE NOT REQUIRED ON INSIDE OF PIPE WITH 27" DIAM. OR LESS.
3. TIES ARE NOT REQUIRED FOR BELL PIPE 24" AND SMALLER. ON OTHER SIZES, TIE MAY BE INSERTED FROM INSIDE.
4. CUT THREADS MAY BE USED IF WASHER AND NUT ARE USED.
5. PIPE SIZES LISTED ARE INSIDE DIAM. OF ROUND PIPE OR EQUIVALENT DIAM. OF PIPE ARCH

BEEHIVE CASTING



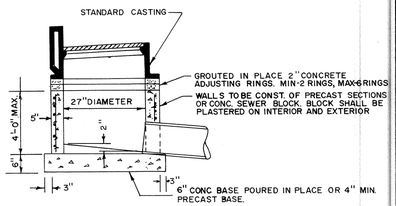
CASTINGS SHALL BE NEENAH R-2561A OR EQUAL.

STANDARD INLET CASTING



CASTINGS SHALL BE NEENAH R-3250-A OR EQUAL

SHALLOW CATCH BASIN



NOTE: REINFORCING SHALL CONSIST OF A SINGLE LINE OF STEEL WIRE FABRIC HAVING AN AREA OF NOT LESS THAN 0.17 SQ IN. PER FOOT OF HEIGHT.

CONSULTING ENGINEERS
Maier Stewart & Associates Inc.
1959 SLOAN PLACE (612) 774-6021 ST. PAUL, MINNESOTA 55117

REVISIONS	DATE	DESCRIPTION

DESIGNED
CHECKED
DRAWN MRJ
GRAPHIC SCALE
HORIZ. NONE
VERT.

SHERBURNE COUNTY
S.A.P. 71-601-13
STORM SEWER DETAILS

DATE FEB. 1991 | SHEET 28 OF 28 SHEETS | PROJECT NO. 231-001

DRAWING NUMBER
1CSAH 91
28

DRAWING NUMBER
SAINT CROIX PRECAST INC. • NEW HOPE, MINNESOTA
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POSITION EDGE OF PRINT ON THIS LINE