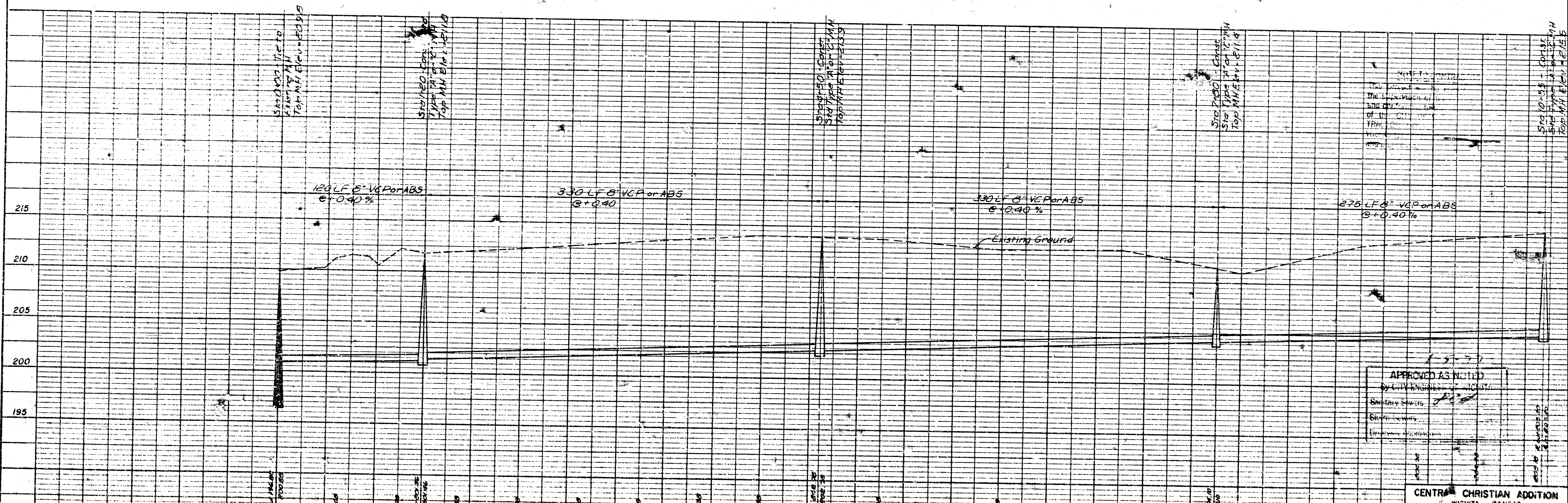
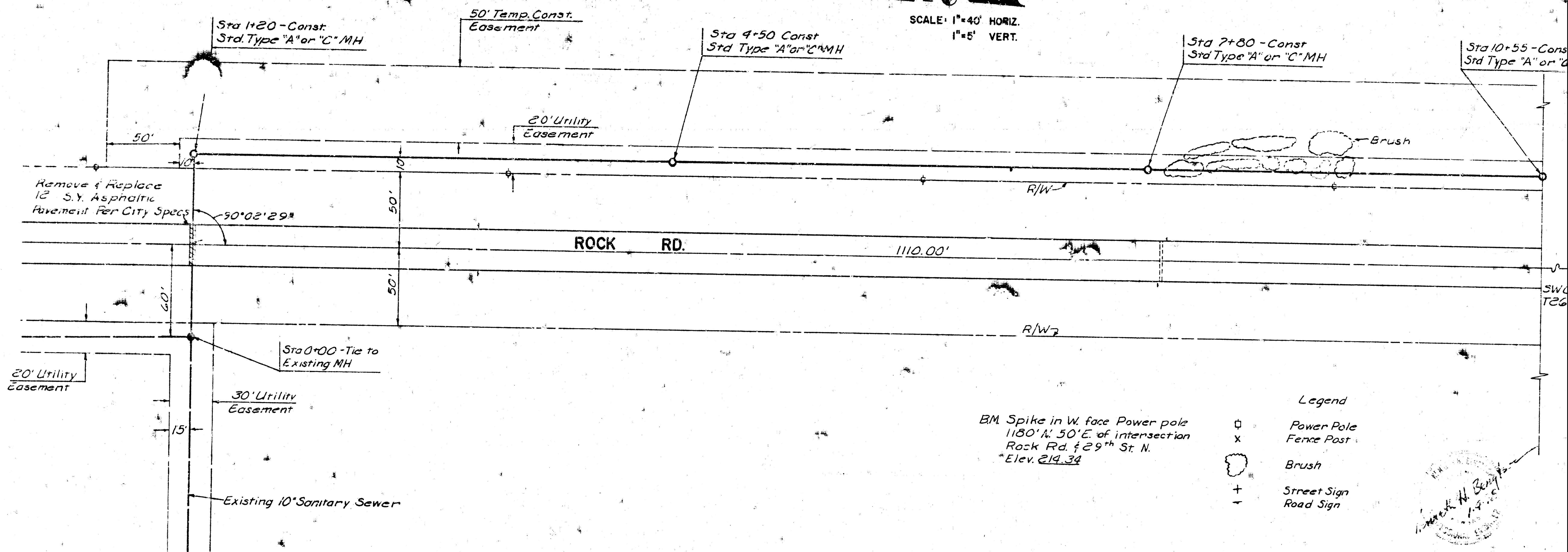
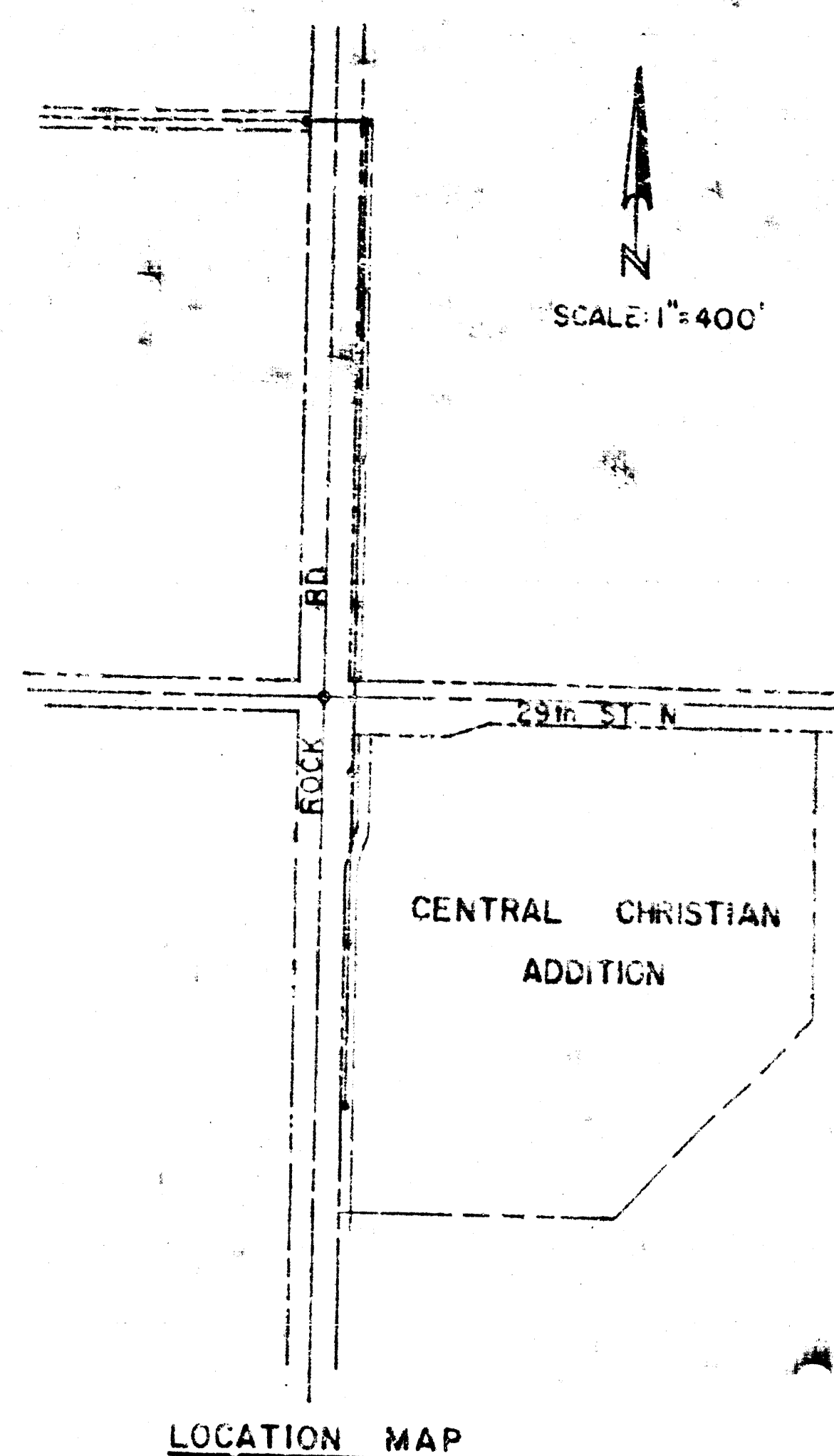
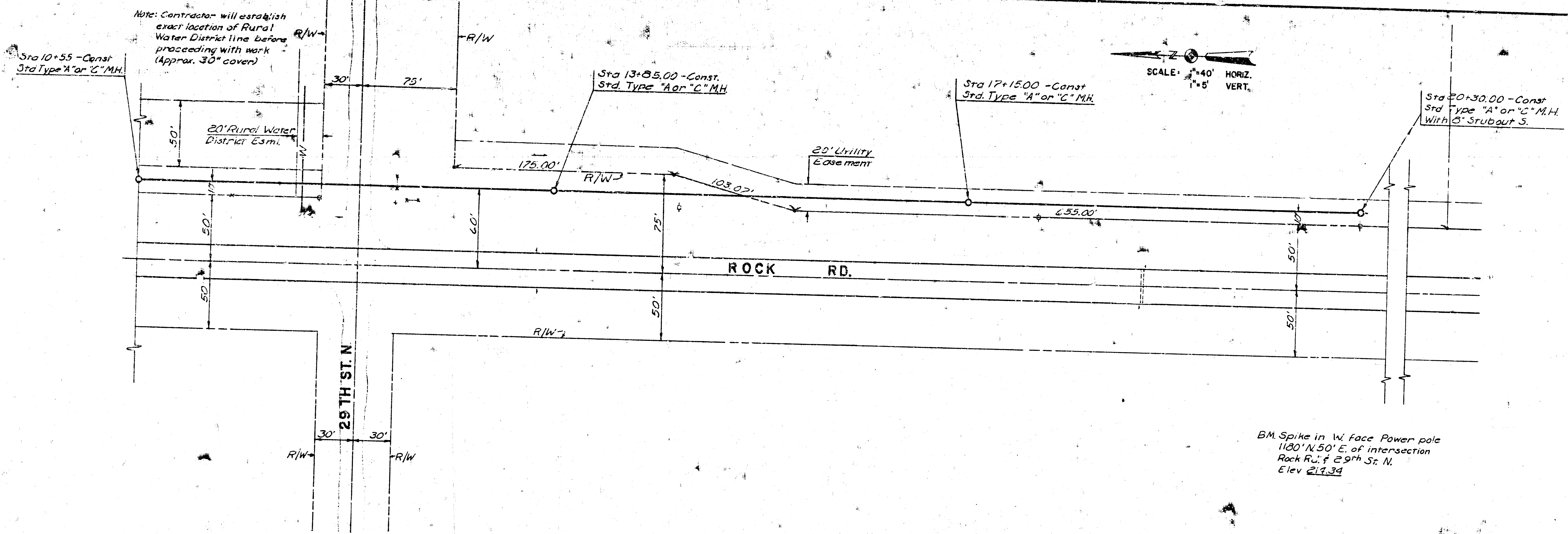
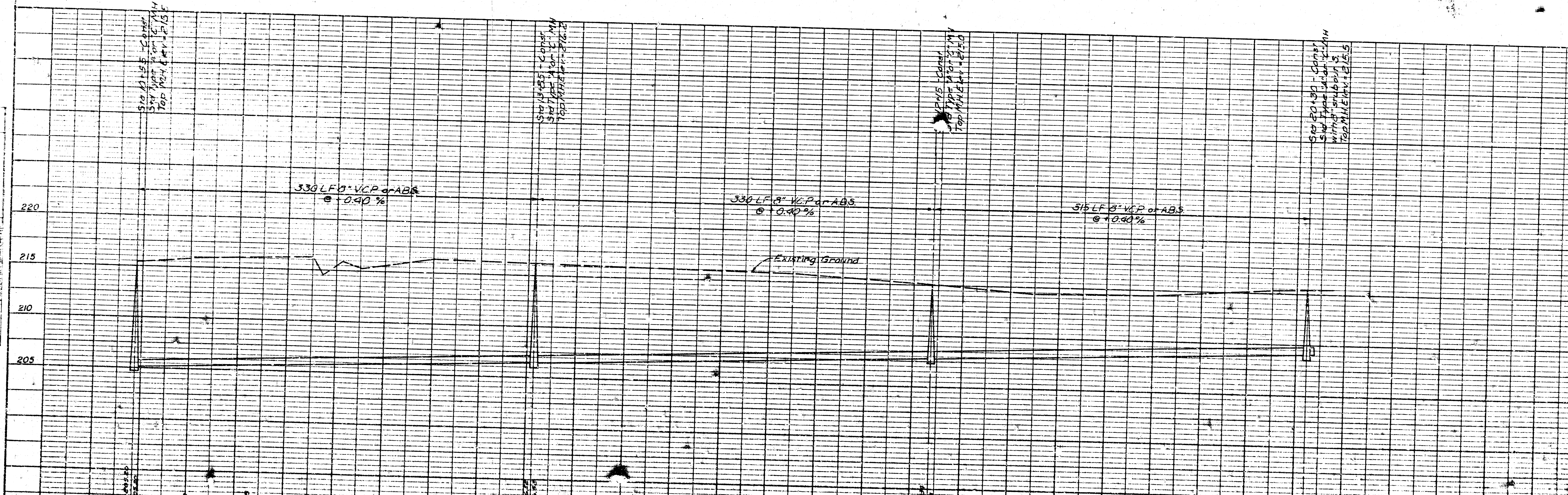
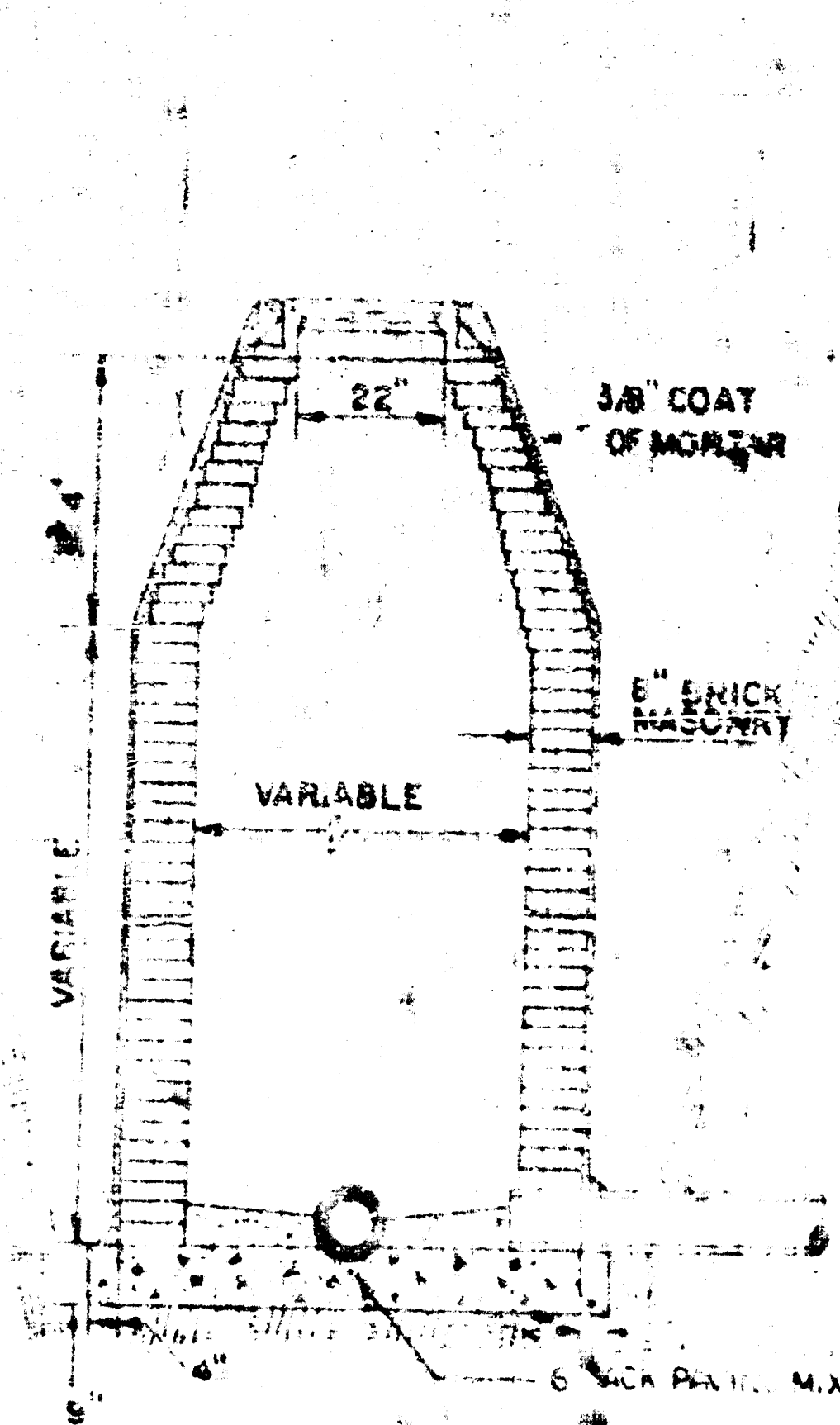






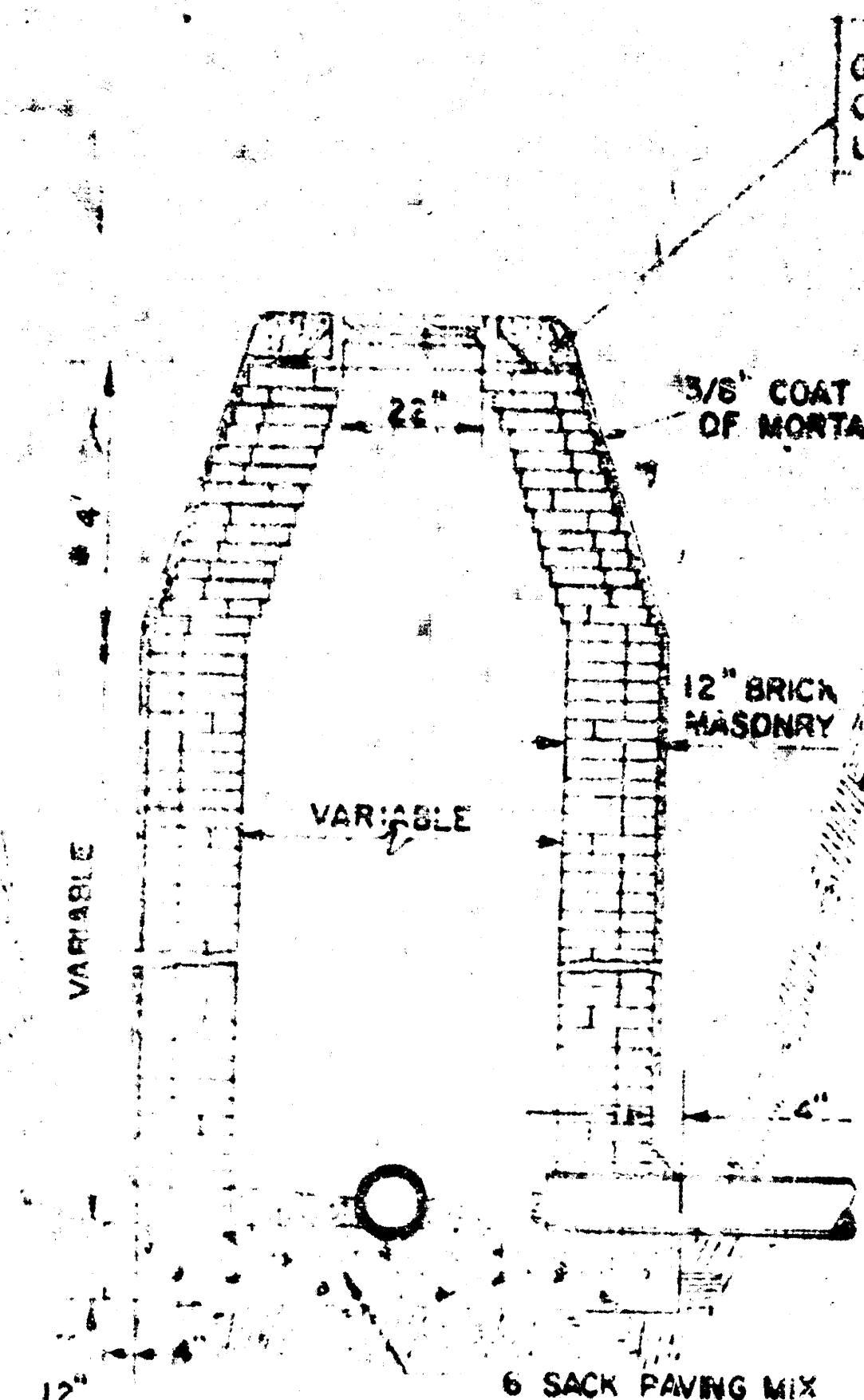
BM. Spike in W. face Power pole
1180' N 50' E. of intersection
Rock Rd. & 29th St. N.
Elev 219.34





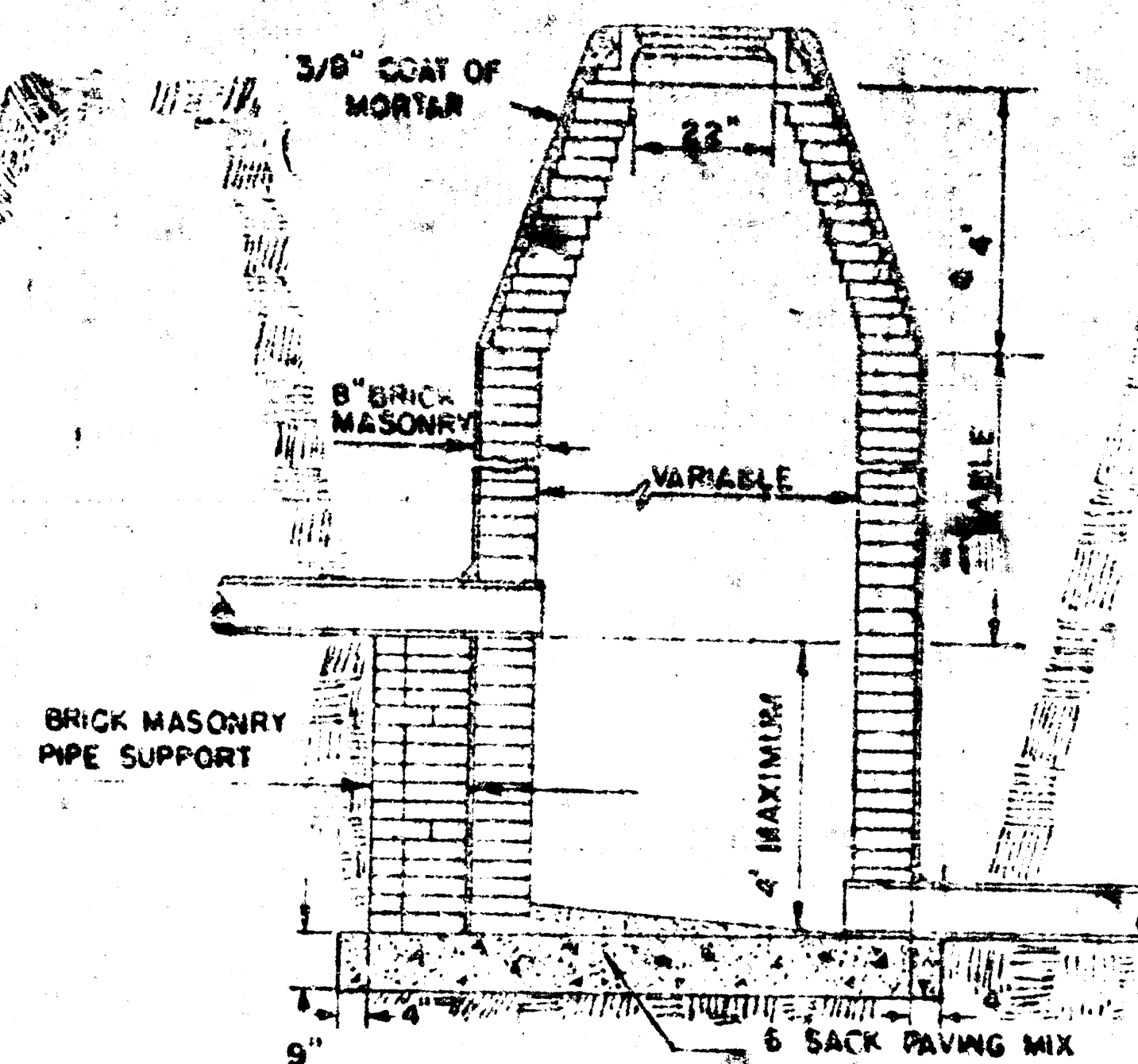
STANDARD MANHOLE
TYPE "A"

* DRAW = 6' ON 5' DIA. M.H.

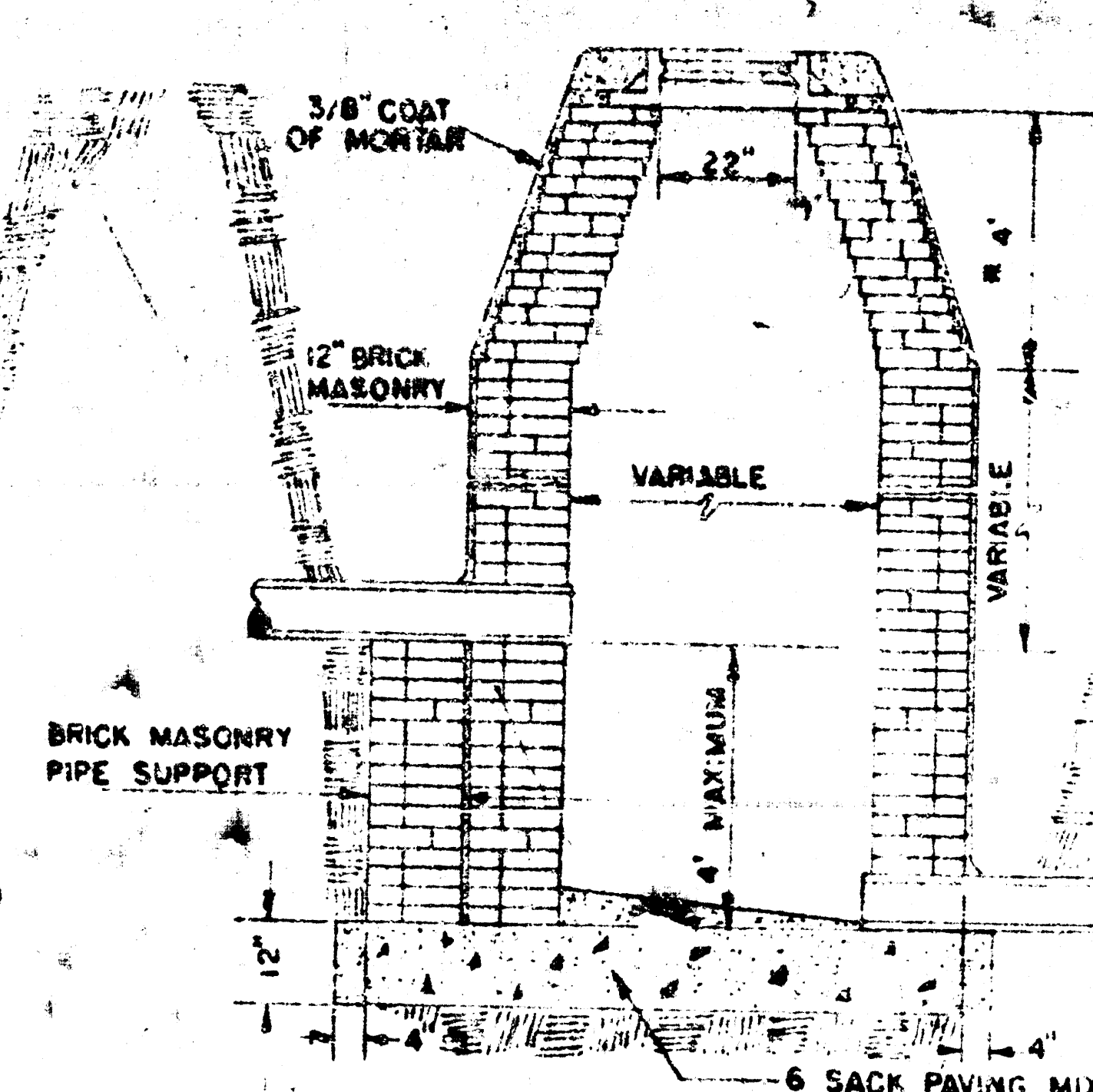


STANDARD MANHOLE
TYPE "B"

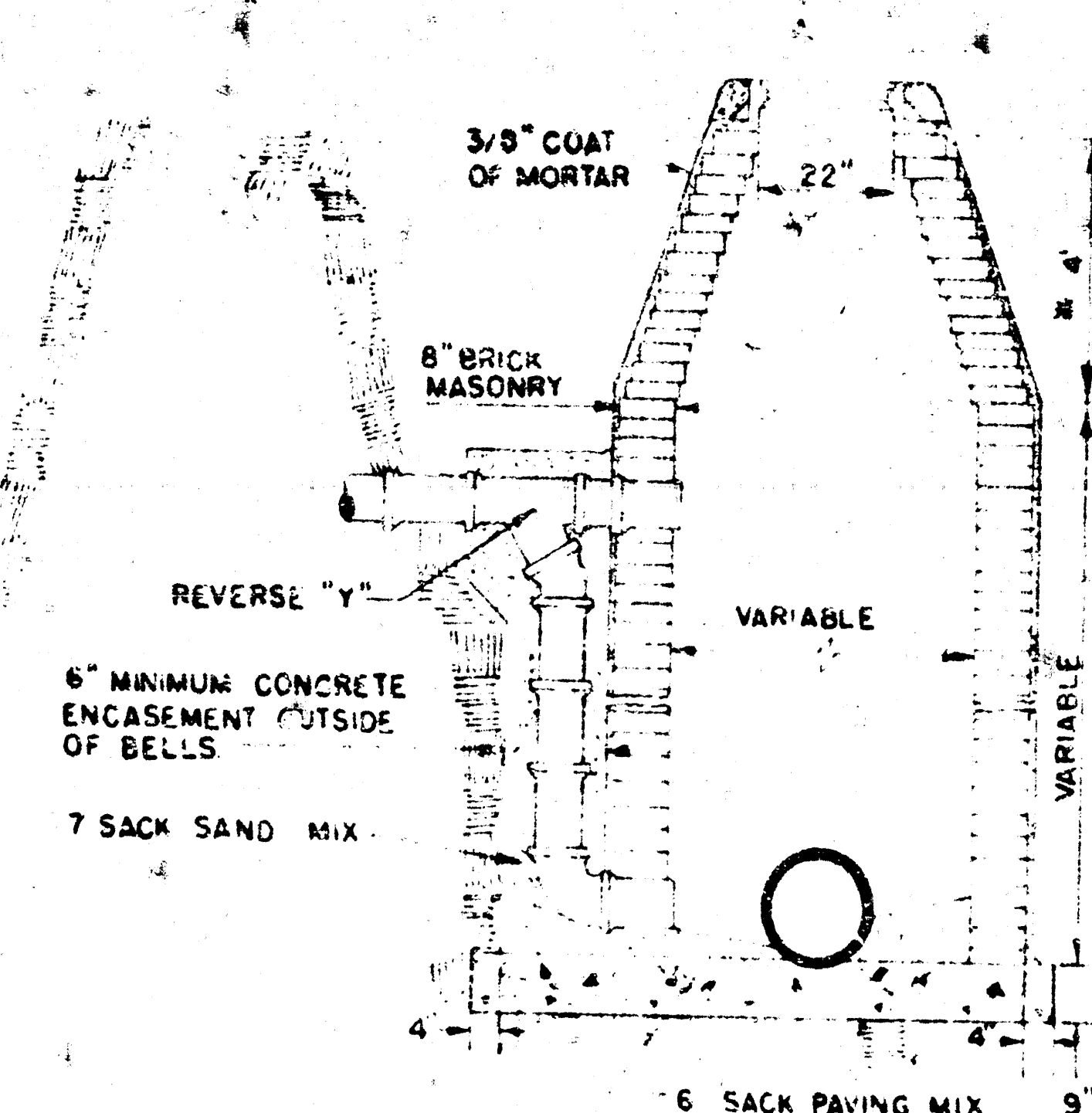
GROUT TO BE PLACED AROUND MANHOLE RING
ONLY WHEN MANHOLE IS CONSTRUCTED IN
UNPAVED AREAS. (TYPICAL ALL MANHOLES)



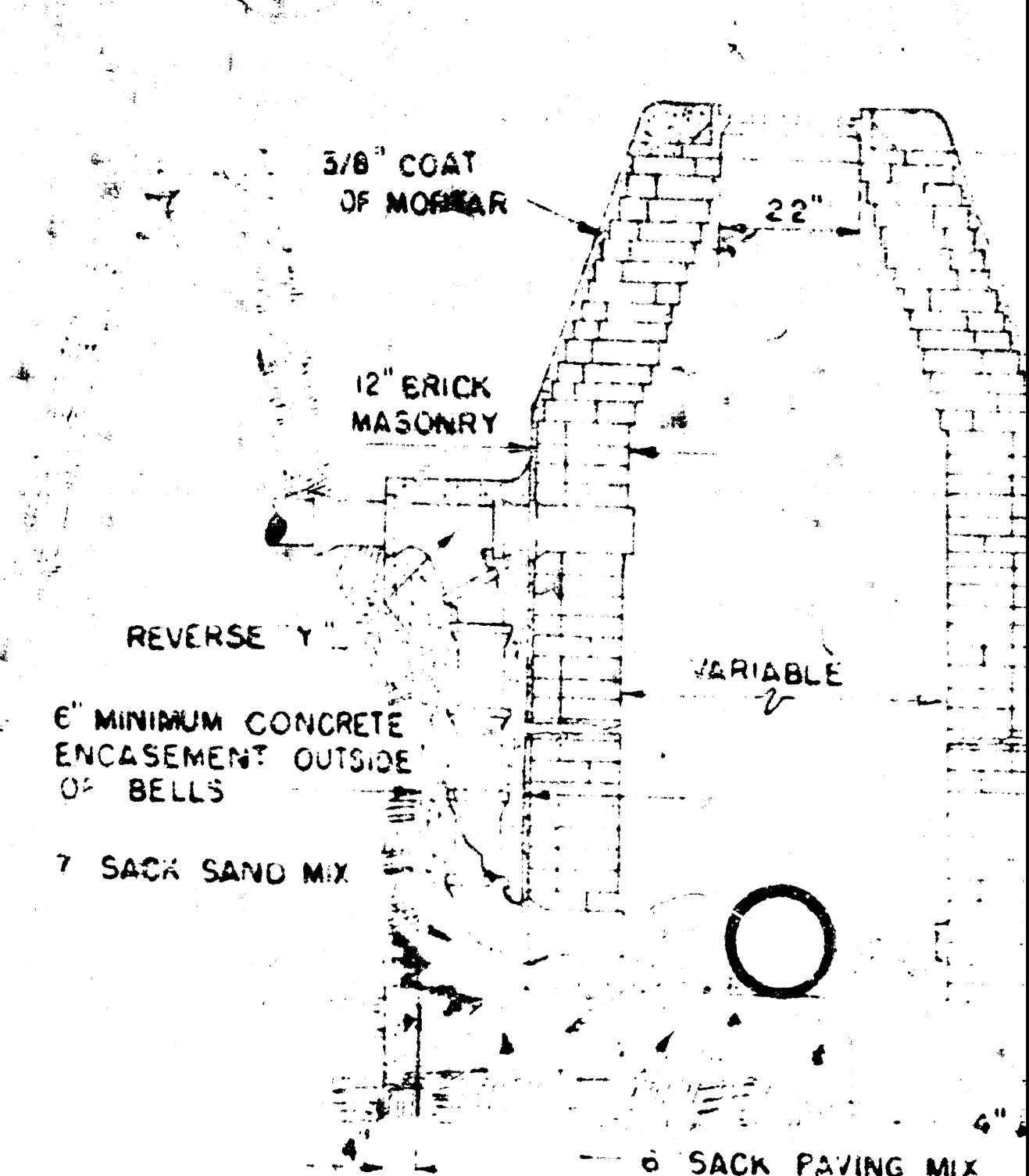
DROP MANHOLE
TYPE "A"



DROP MANHOLE
TYPE "B"

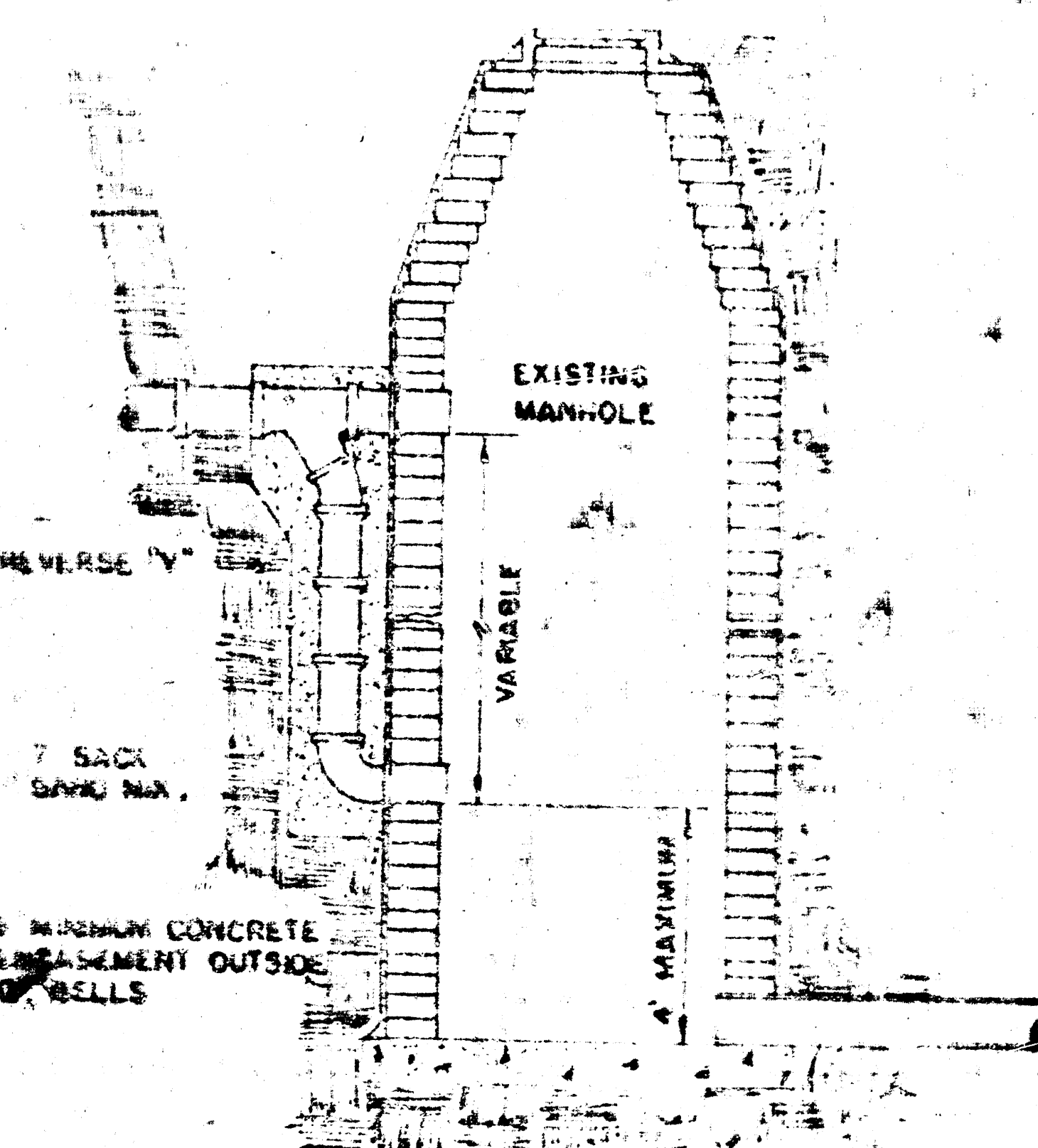


OUTSIDE DROP MANHOLE
TYPE "A"



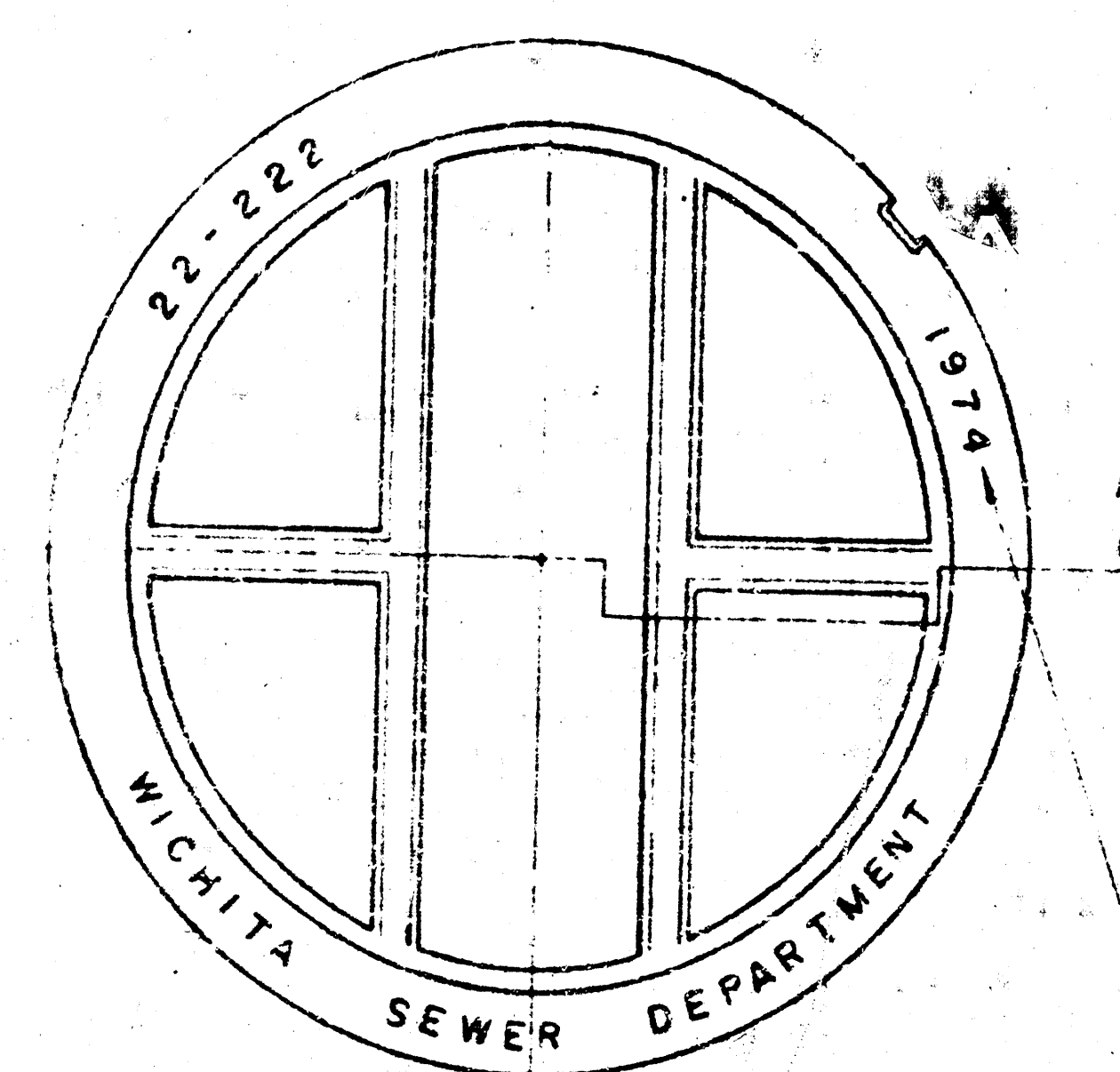
OUTSIDE DROP MANHOLE
TYPE "B"

NOTE: REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES 6" ABOVE
THE BOTTOM. REINFORCING STEEL SHALL CONSIST OF NO. 4 BARS PLACED
ON 6" CENTERS IN BOTH DIRECTIONS. THE COST OF REINFORCING STEEL
IS TO BE INCLUDED IN THE PRICE BID FOR THE MANHOLE.

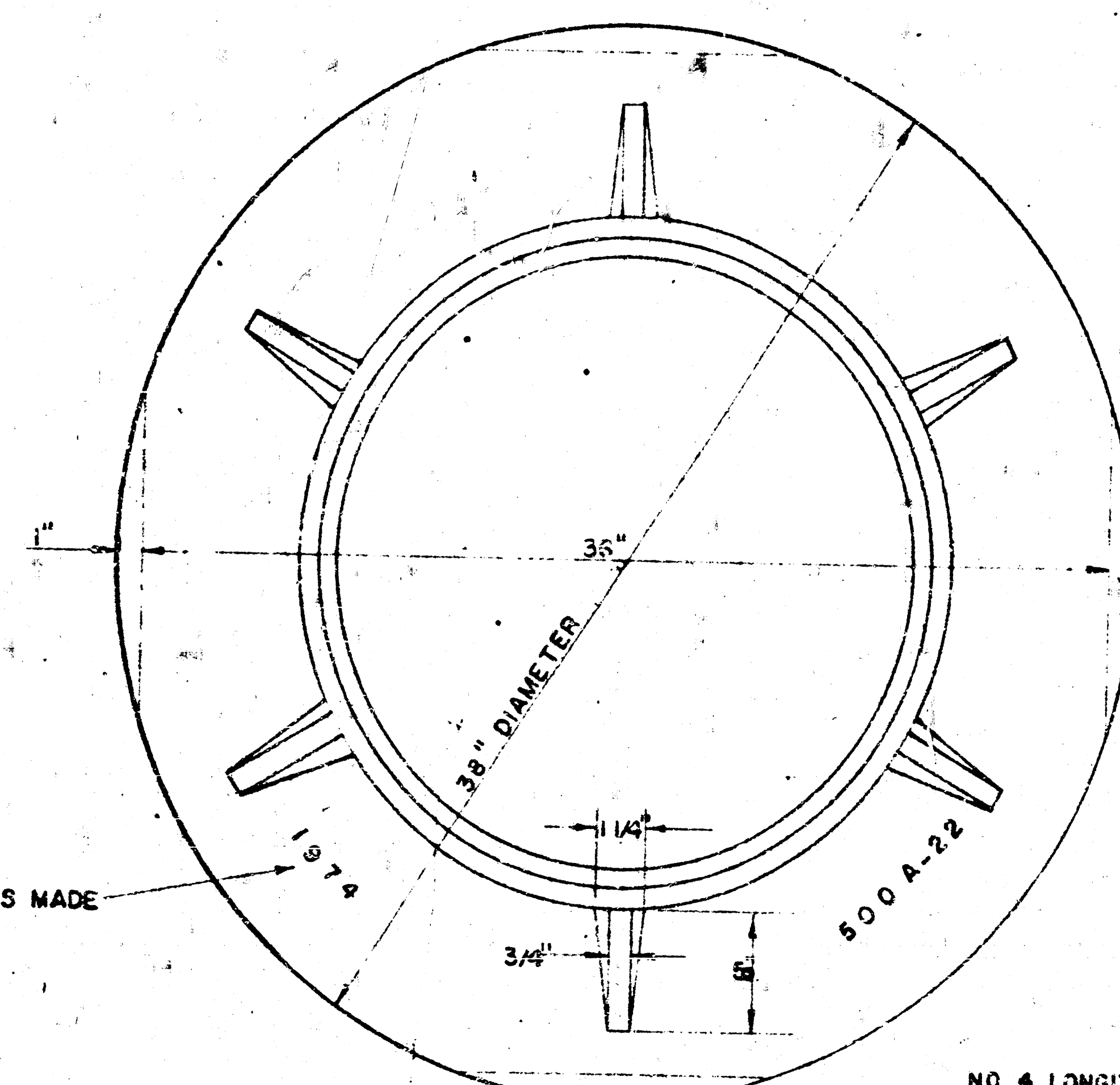


DETAIL OF DROP STACK

FOR EXISTING MANHOLES IN GROUND WATER



MANHOLE COVER
WEIGHT 110 LBS.



MANHOLE RING

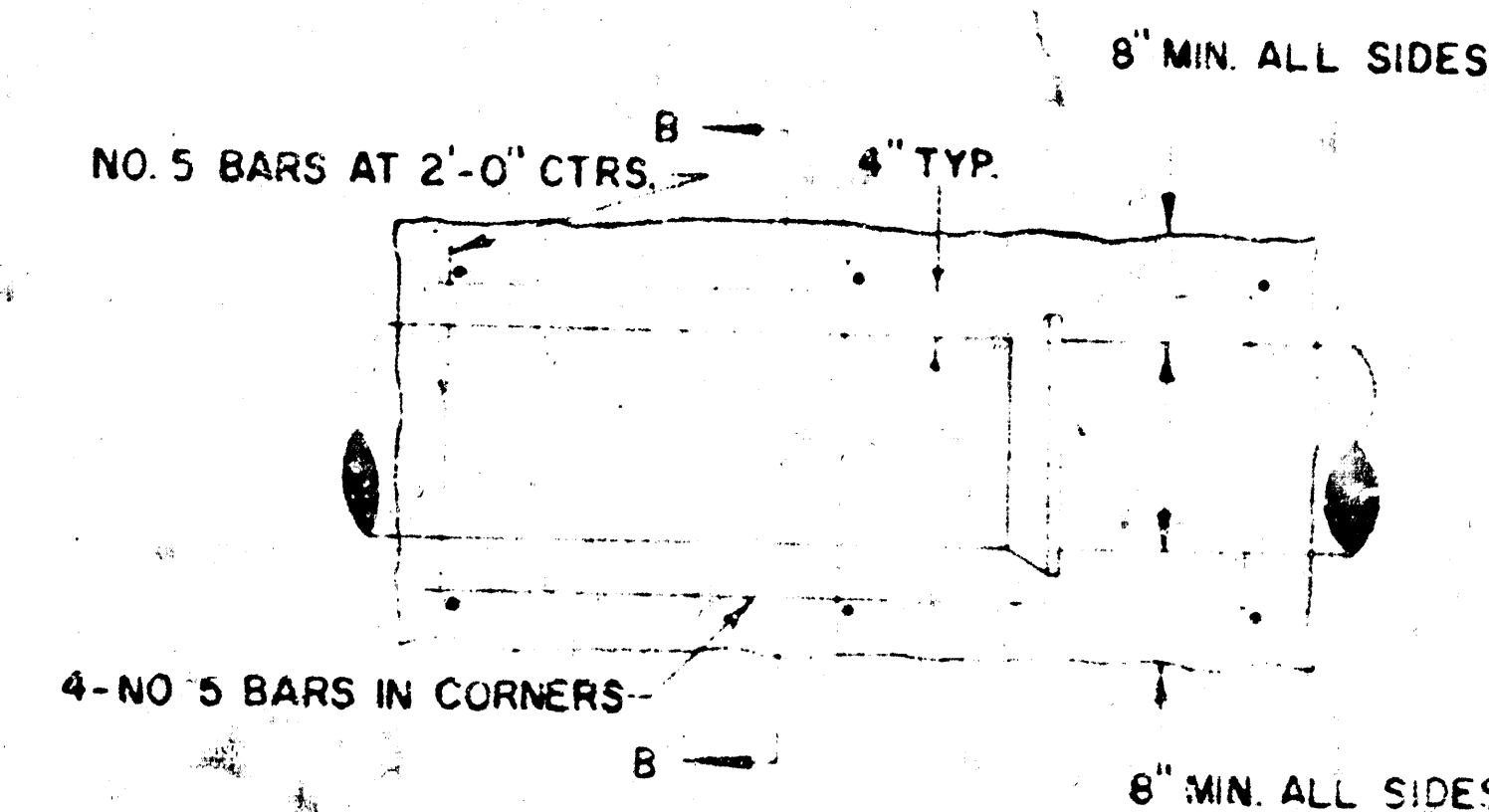
WEIGHT 325 LBS. RING NO. 500A
WEIGHT 300 LBS. RING NO. 500AS

THIS PORTION OF FLANGE
MAY BE OMITTED

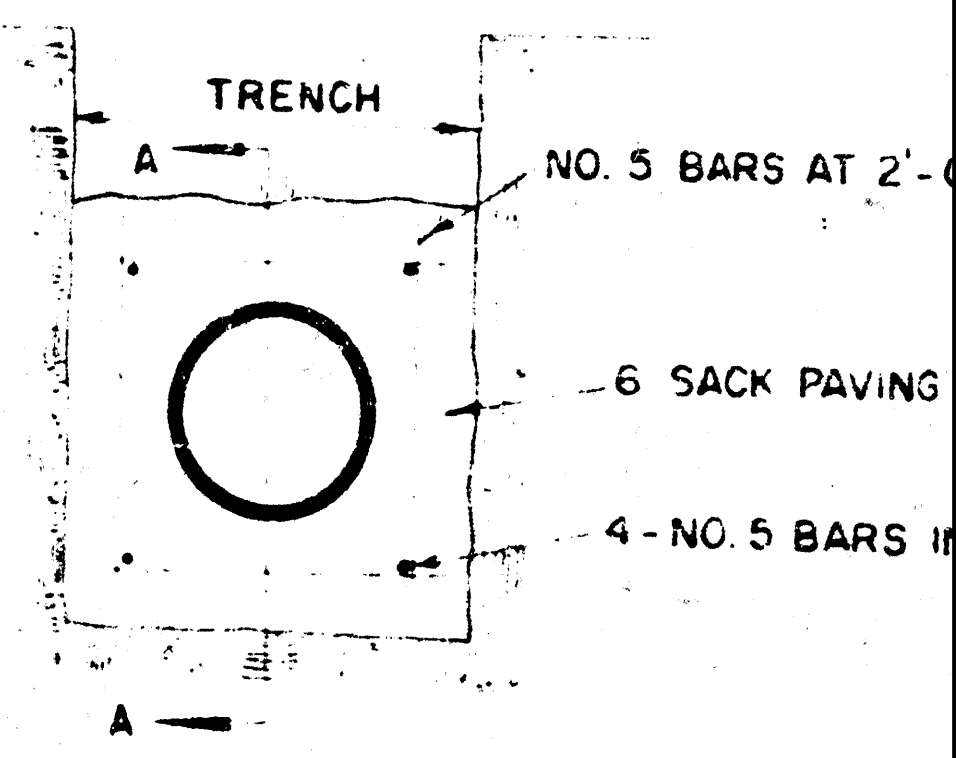
NO. 4 LONGITUDINAL
BARS

NO. 4 TRANSVERSE BARS
AT 2' CENTERS

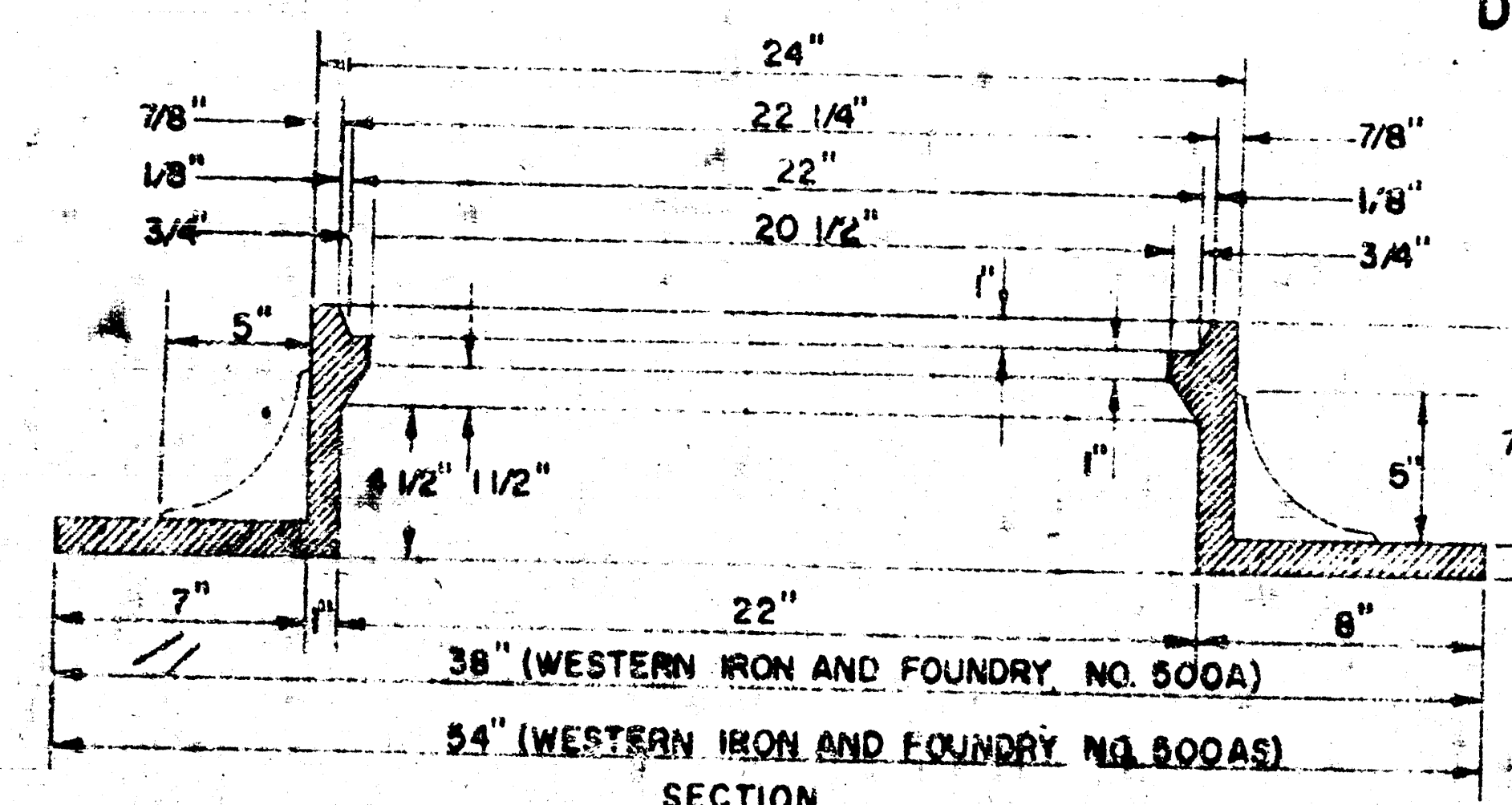
DETAIL OF CONCRETE CRADLE



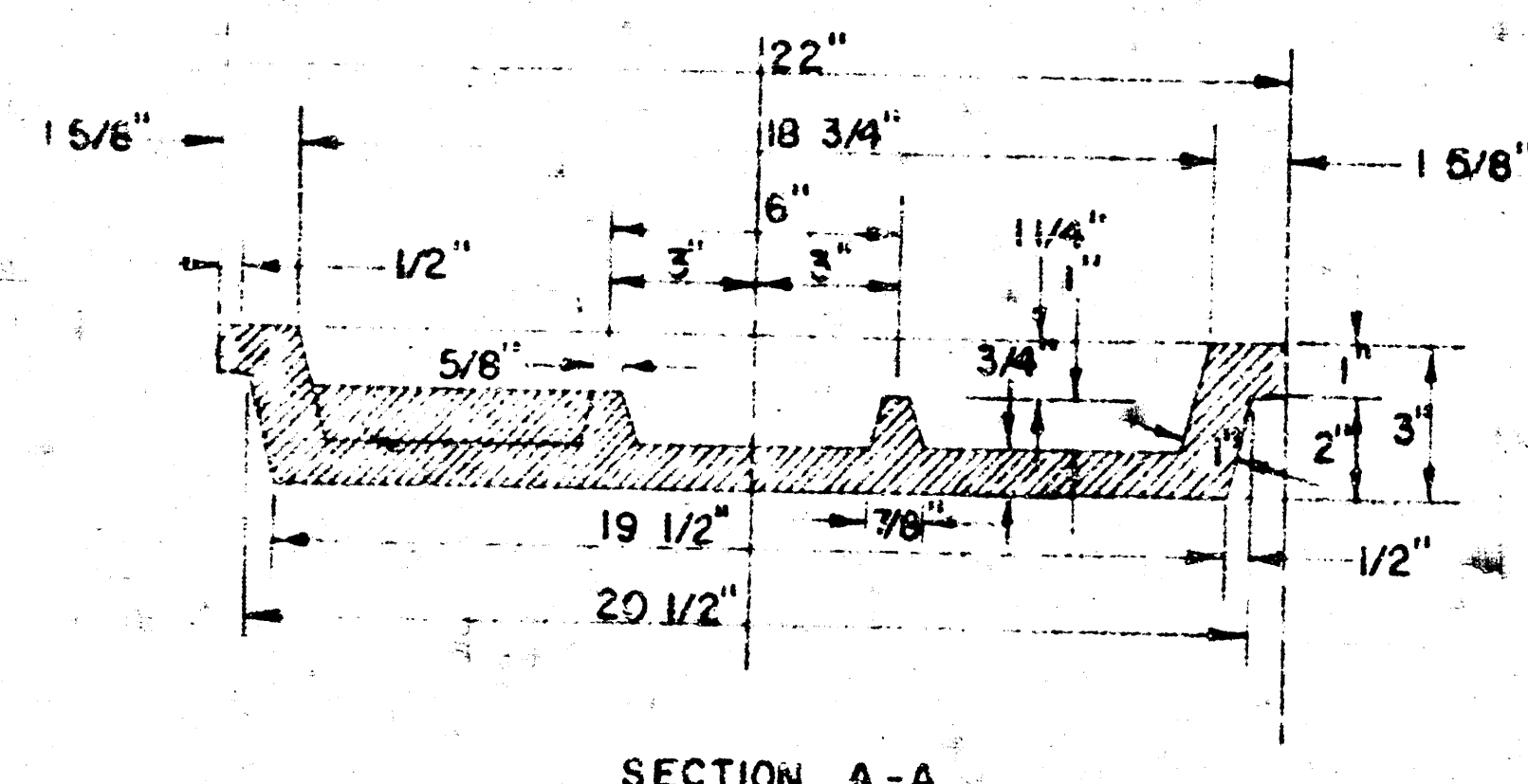
REINFORCED CONCRETE ENCASEMENT



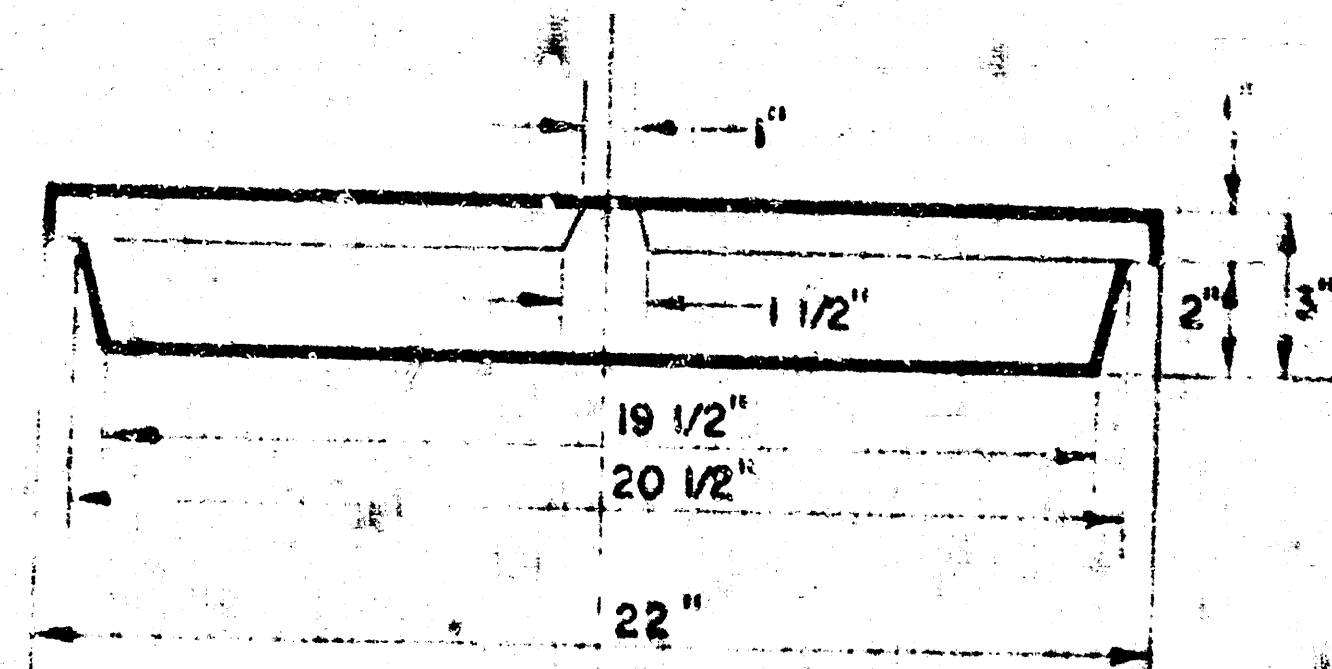
ORDINARY BEDDING METHOD
STORM SEWER PIPE



MANHOLE RING



MANHOLE COVER



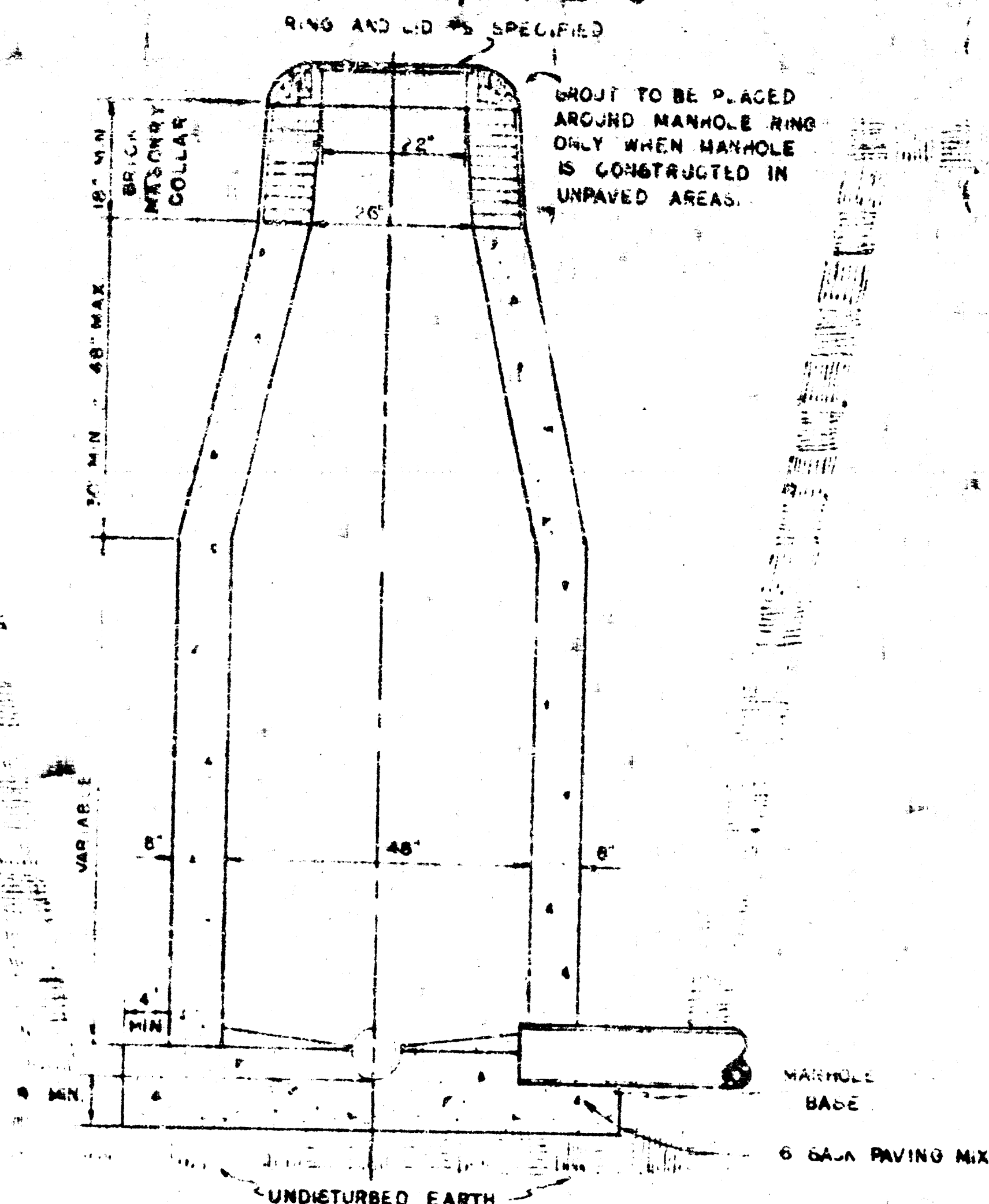
GENERAL NOTES

- MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD.
- STANDARD MANHOLES TYPE "A" OR TYPE "B" AND STANDARD DROP MANHOLES TYPE "A" OR TYPE "B" SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE. MANHOLES WITH PIPE SIZES LARGER THAN 24" SHALL BE 5' DIAMETER.
- THE FLOORS OF ALL MANHOLES SHALL BE SHAPED TO INCREASE HYDRAULIC EFFICIENCY USING 8 SACK SAND MIX CONCRETE.
- PIPES INSTALLED WITHIN THE MANHOLE EXCAVATION SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. COST OF CRADLE WITHIN MANHOLE EXCAVATION SHALL BE INCLUDED IN THE PRICE BID FOR THE MANHOLE.

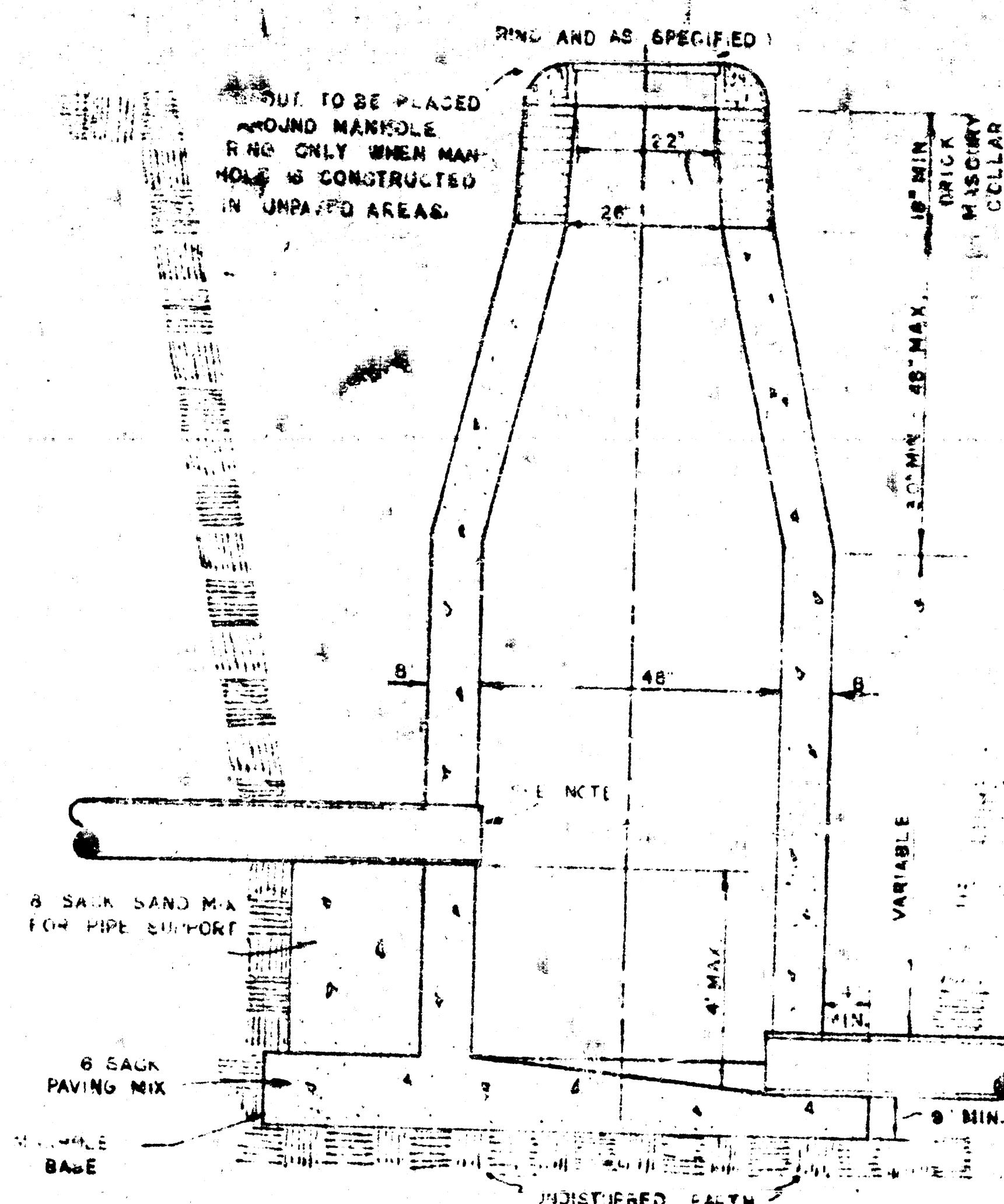
REVISED 4-13-77

DETAILS OF
SEWER APPURTENANCES
ADOPTED AS STANDARD BY

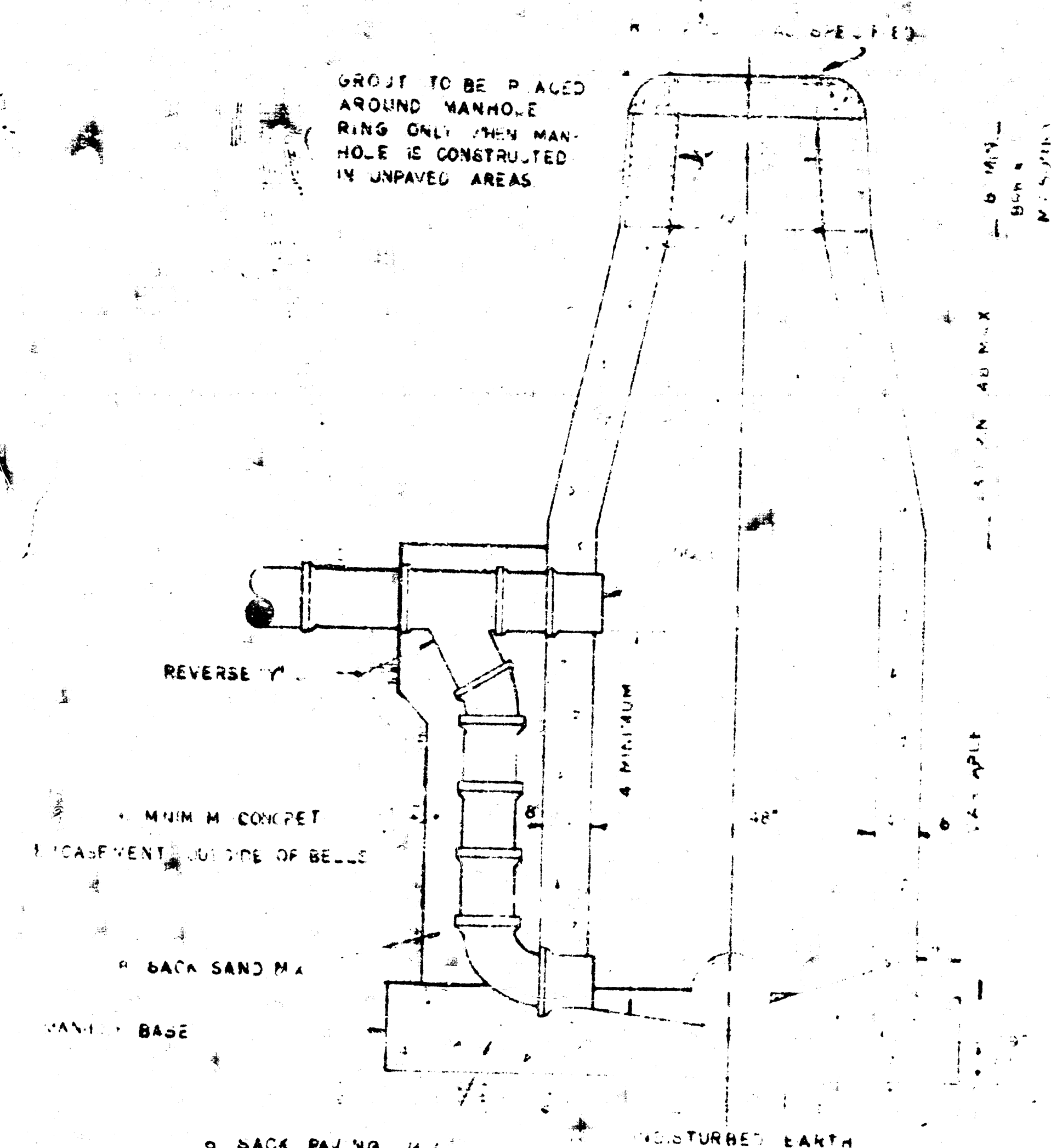
STANDARD MANHOLE, TYPE "C"



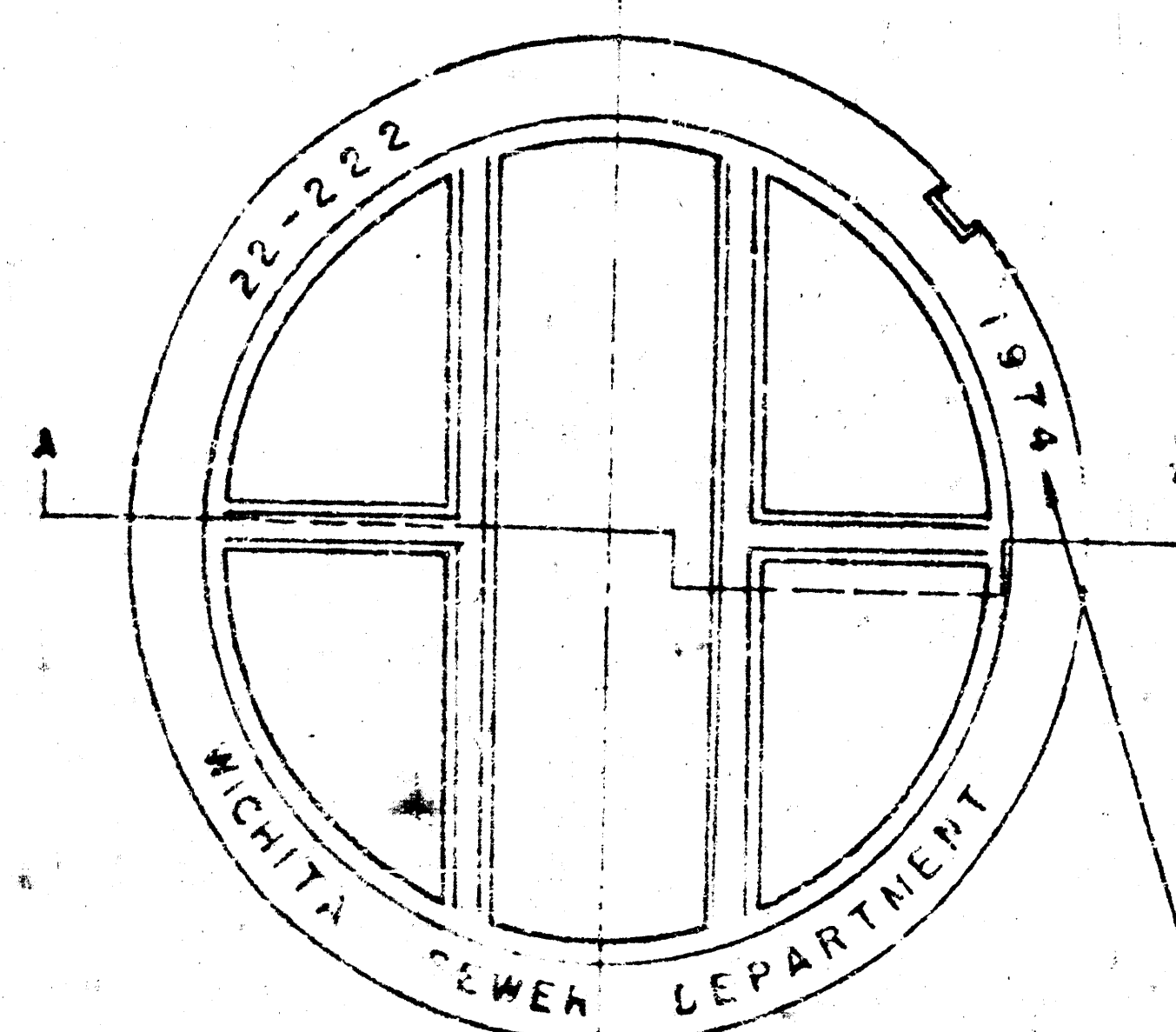
DROP MANHOLE, TYPE "C"



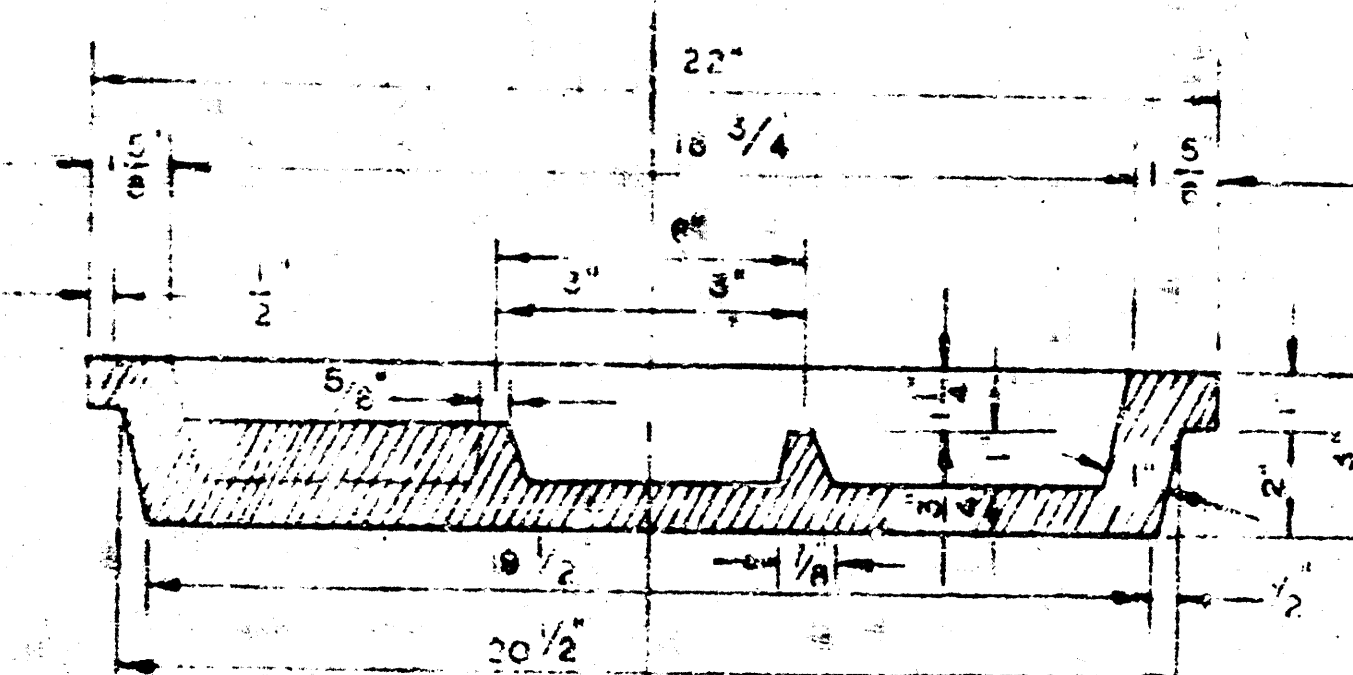
OUTSIDE DROP MANHOLE, TYPE "C"



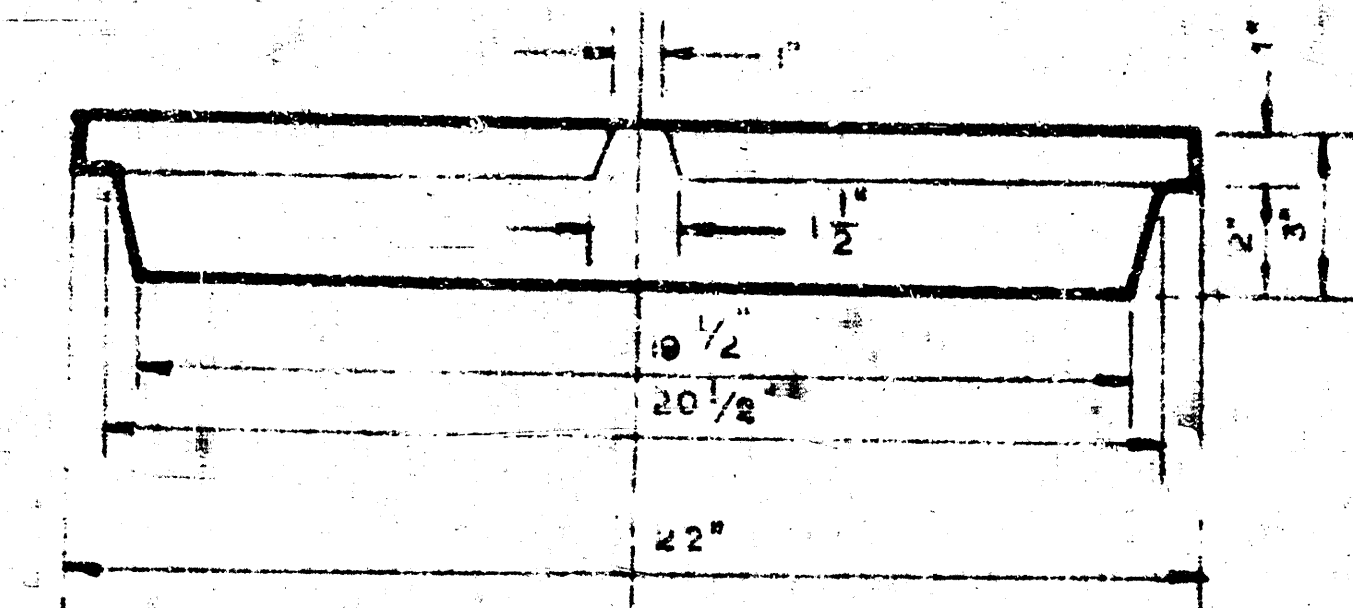
NOTE: REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES 6" ABOVE THE BOTTOM. REINFORCING STEEL SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE COST OF REINFORCING STEEL IS TO BE INCLUDED IN THE PRICE BID FOR THE MANHOLE.



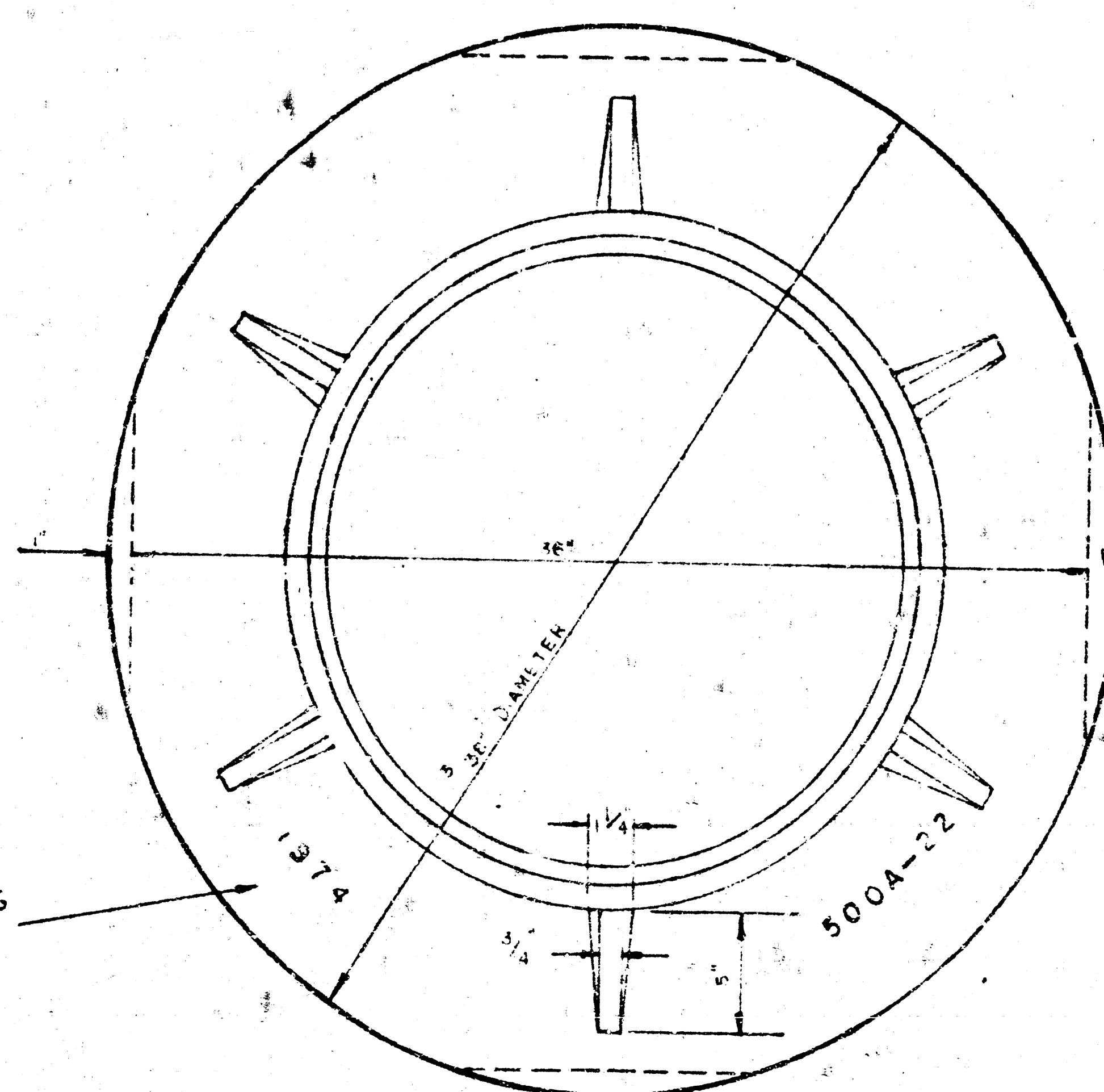
MANHOLE COVER



MANHOLE COVER

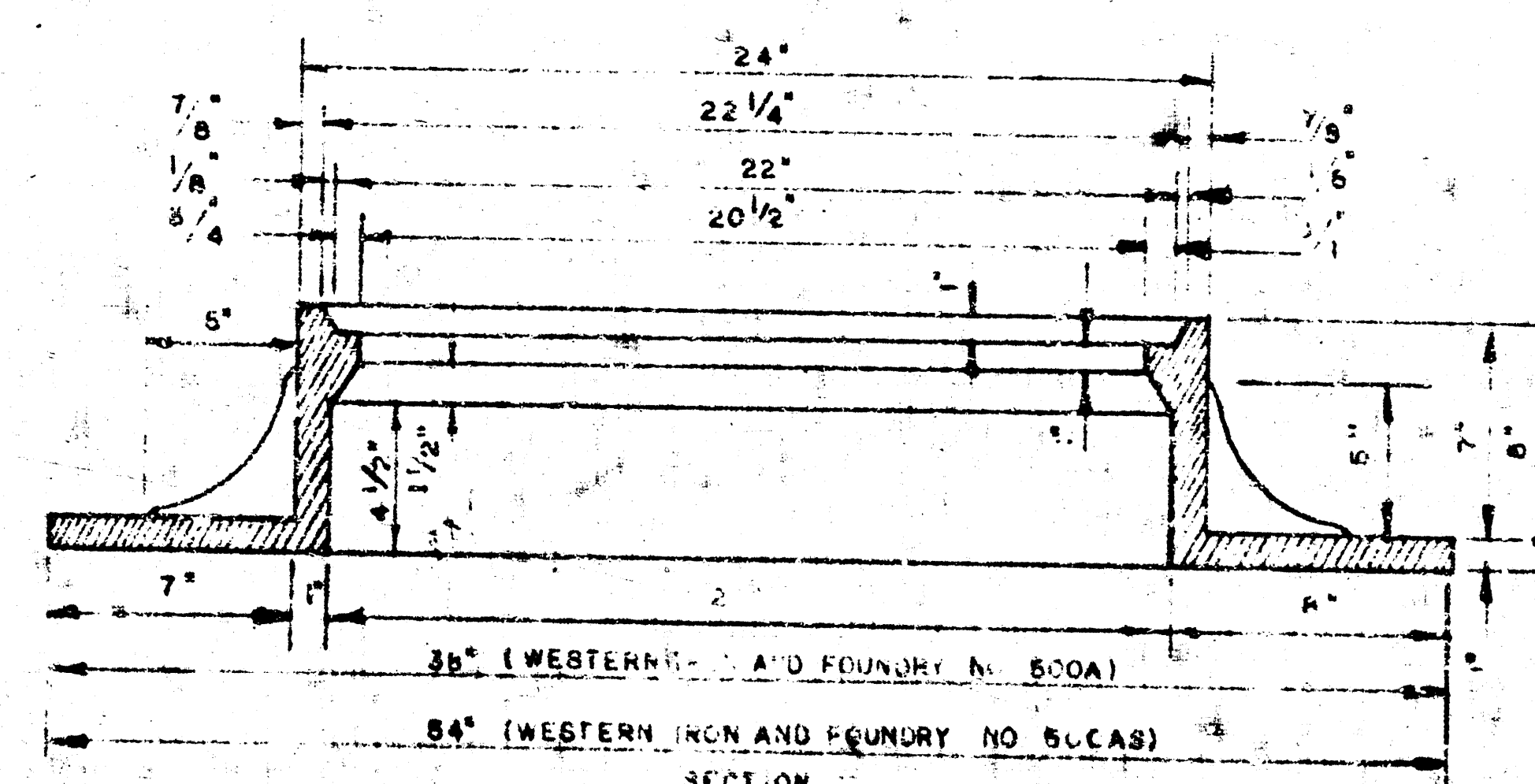


SIDE VIEW



MANHOLE RING

WEIGHT 450 LBS. RING NO. 500A
WEIGHT 800 LBS. RING NO. 500AS



SECTION

NOTE: OPENING FOR INLET PIPE CUT IN MANHOLE WALL AND PIPE GROUTED IN PLACE WITH NON-SHRINKING GROUT. EXTERIOR OF COMPLETED CONNECTION TO BE SEALED WITH APPROVED COATING.

GENERAL NOTES

MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 6 SACKS OF PER CUBIC YARD.

STANDARD MANHOLES TYPE AND STANDARD DROP MANHOLE "C" SHALL BE BID AS STANDARD HOLES FOR THE TYPE AND DIAMETER INDICATED.

OUTSIDE DROP MANHOLES TYPE SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4 FT UNLESS INDICATED OTHERWISE. MANHOLES WITH PIPE SIZES LARGER THAN 24" SHALL BE 5 FT DIAMETER.

THE FLOORS OF ALL MANHOLES SHALL BE SHAPED TO INCREASE HYDRAULIC EFFICIENCY USING 8 SACK MIX CONCRETE.

CAST IN PLACE CIRCULAR CONCRETE MANHOLES ARE TO BE CONSTRUCTED ONLY ON SEWERS NOT SUBJECT TO DETERIORATION OF CONCRETE DUE TO FORMATION OF HYDROGEN SULFIDE GAS AND IN LOCATIONS WHERE IT IS OBVIOUS THAT ANY ADJUSTMENT OF THE MANHOLE TOP ELEVATION WHICH MAY BE NECESSARY WILL REQUIRE MODIFICATION OF THE CONCRETE BARREL.

PIPES INSTALLED WITHIN THE MANHOLE EXCAVATION SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. COST OF CRADLE WITHIN MANHOLE EXCAVATION SHALL BE INCLUDED IN THE PRICE BID FOR THE MANHOLE.

REVISED

DETAILS OF
SEWER APPURTENANCES
ADOPTED AS STANDARD DE
BY
ENGINEERING DIVISION