

# CONSTRUCTION PLANS FOR SANITARY SEWER MANHOLE

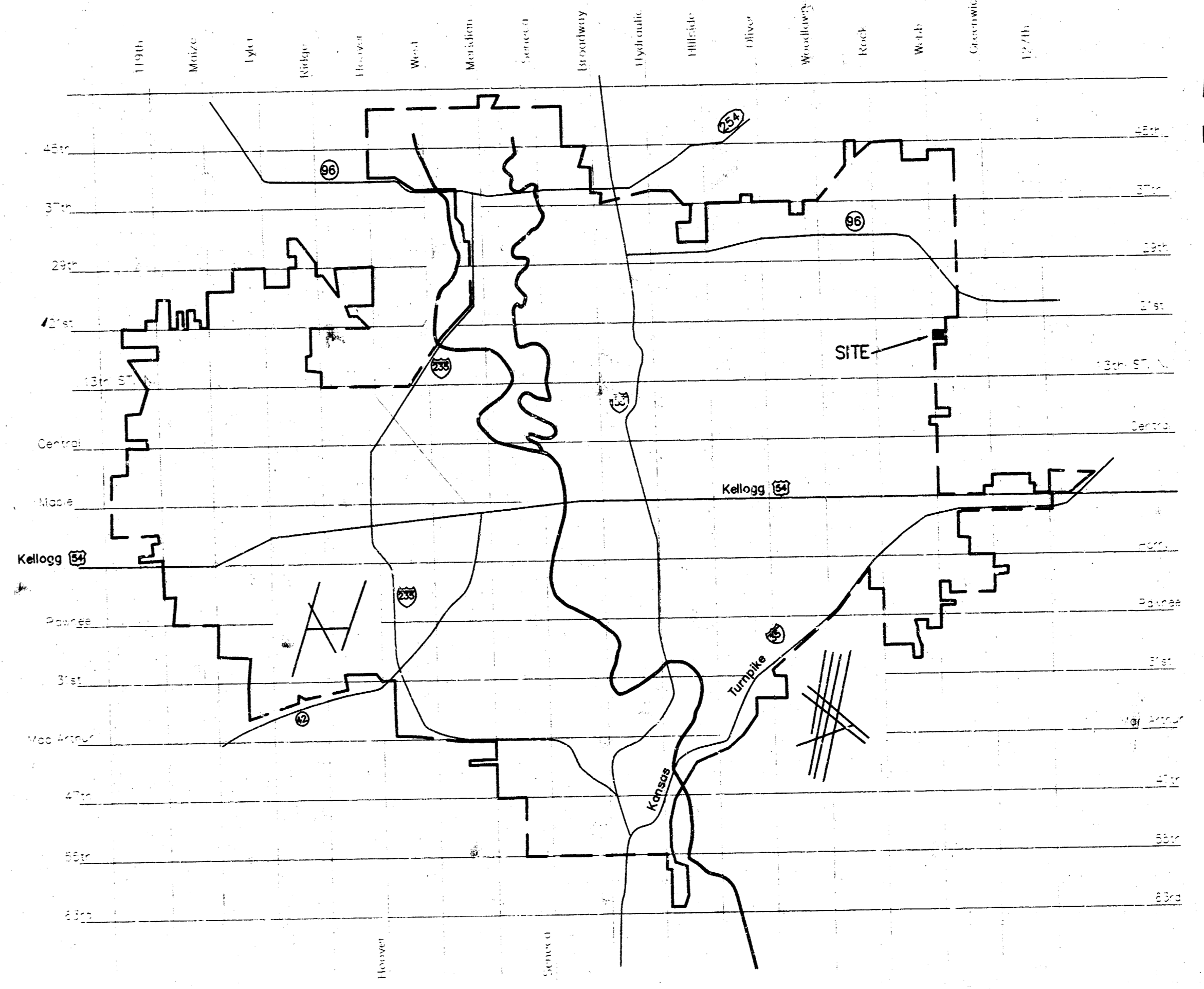
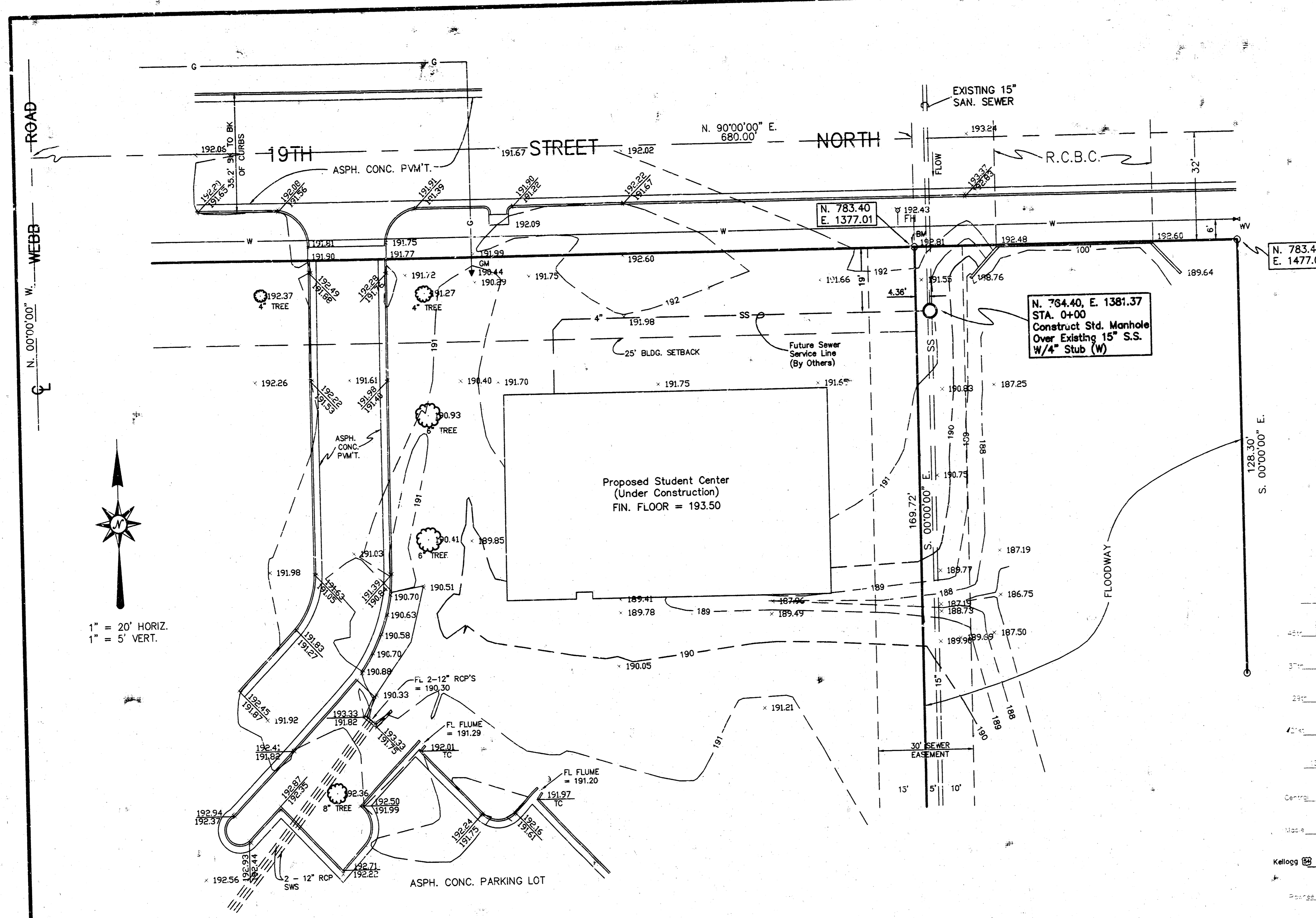
TO SERVE

## Eastminster Student Center

1958 N. Webb Road  
Wichita, Kansas

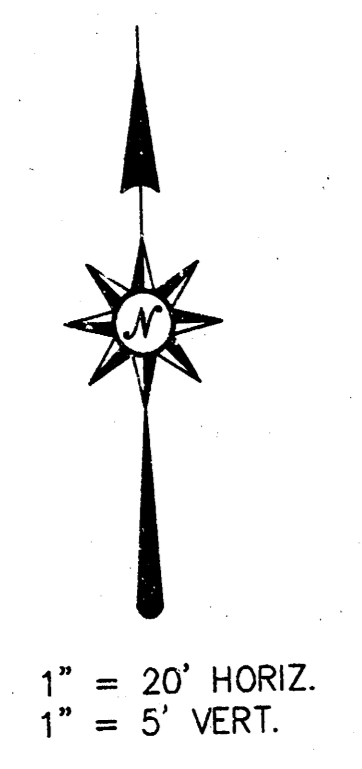
IN LOT 1, BLOCK 2, EASTMINSTER, AN ADDITION  
TO WICHITA, SEDGWICK COUNTY, KANSAS

MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER  
PRIVATE PROJECT NO. 999 PPS (607861)



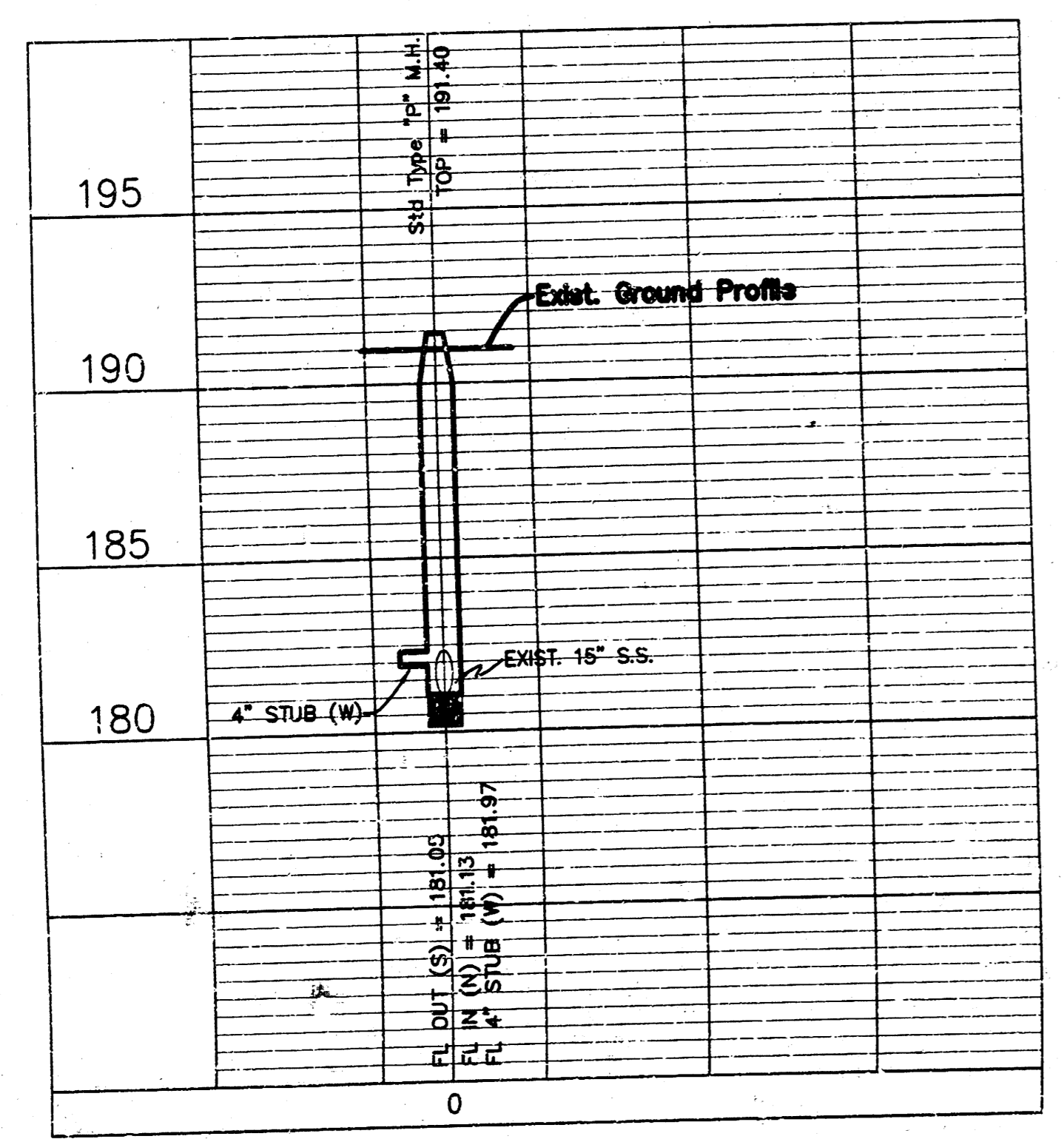
INDEX OF SHEETS

SHEET 1	TITLE SHEET - PLAN & PROFILE
SHEET 2	TYPE 'P' MANHOLE DETAILS
SHEET 3	FRAME AND COVER DETAILS
SHEET 4	PLAT



### GENERAL NOTES

- ALL CONSTRUCTION AND MATERIALS TO COMPLY WITH THE CITY OF WICHITA SPECIFICATIONS AND STANDARDS.
- ALL ELEVATIONS SHOWN ARE BASED ON THE CITY OF WICHITA DATUM.
- AT LEAST 72 HOURS PRIOR TO BEGINNING EXCAVATION, THE CONTRACTOR SHALL CONTACT THE KANSAS ONE-CALL SYSTEM, A UTILITY LOCATION SERVICE, AT (316) 687-2470 TO REQUEST THE LOCAL UTILITY COMPANIES MARK ANY EXISTING LINES WITHIN THE PROJECT AREA.
- EXISTING UTILITIES AND THEIR LOCATIONS, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR THE DESIGN. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR WILL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.
- CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL MANHOLE COVERS.
- MANHOLES SHALL BE TYPE "P" MANHOLES. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS.
- THE CONTRACTOR SHALL PREVENT ANY CONSTRUCTION DEBRIS FROM ENTERING THE EXISTING SANITARY SEWER DURING CONSTRUCTION.
- CONTRACTOR IS REQUIRED TO MAINTAIN CONTINUOUS FLOW OF SEWAGE IN EXISTING MAINS AT ALL TIMES.
- ALL DISTURBED AREAS TO BE RE-SEEDED USING TEMPORARY RYE GRASS AT A RATE OF 4 LBS. PER 1000 SQ. FT. WITHIN 14 DAYS UPON PROJECT COMPLETION. CONTRACTOR SHALL PREPARE GROUND PER CITY SPECIFICATIONS.



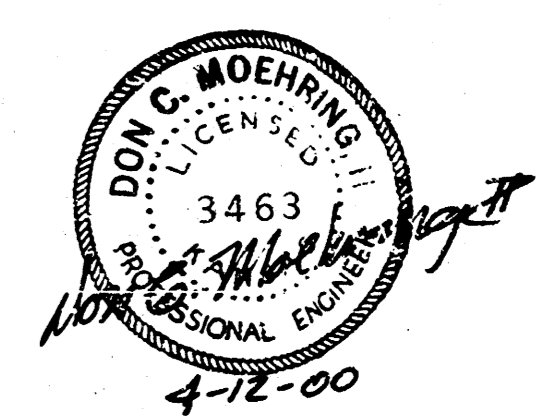
### VICINITY MAP

APPROVED AS NOTED  
By CITY ENGINEER OF WICHITA

Sanitary Sewers VRH 4/2/00  
Storm Sewers \_\_\_\_\_  
Driveway Approaches \_\_\_\_\_  
Water Mains \_\_\_\_\_  
Paving \_\_\_\_\_

*Booked*  
*K-213*  
*12/16/02*  
*RDL*  
*Per plan*

INSPECTION AND TESTING FOR THIS PROJECT IS TO BE PROVIDED BY A LICENSED CONSULTING ENGINEERING FIRM CONTRACTED BY THE OWNER/DEVELOPER. SAID INSPECTION TO BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD CONSTRUCTION ENGINEERING PRACTICES AND CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER. NO WORK SHALL BE PERFORMED IN DEDICATED EASEMENTS OR THE PUBLIC RIGHT-OF-WAY BY THE CONTRACTOR WITHOUT SUCH INSPECTION NOR SHALL ANY WORK BE COMMENCED IN DEDICATED EASEMENTS OR PUBLIC RIGHT-OF-WAY WITHOUT WRITTEN AUTHORIZATION BY THE CITY ENGINEER.

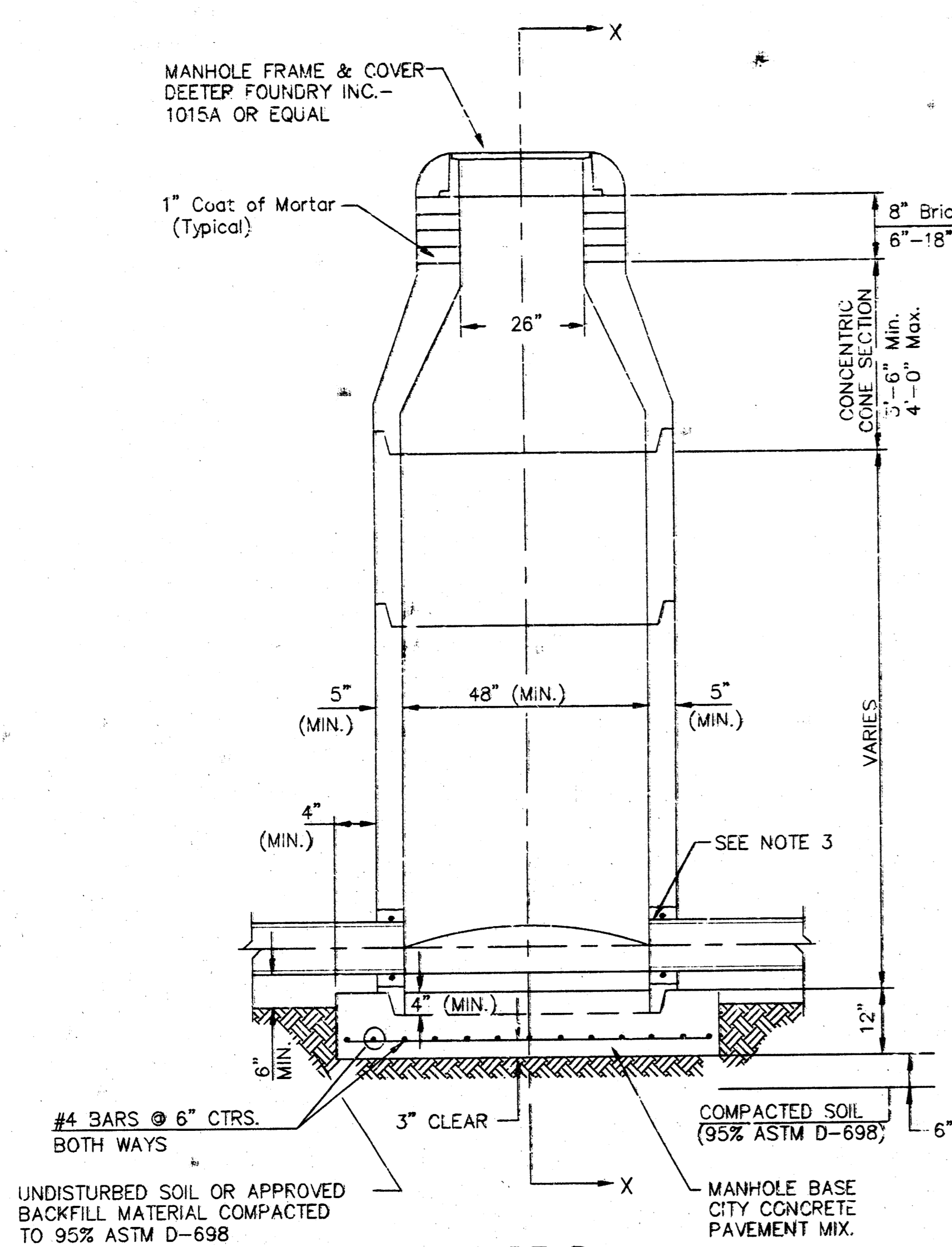


**Sanitary Sewer Manhole**  
**MOEHRING & ASSOCIATES**  
CONSULTING ENGINEERS - SURVEYORS  
433 S. HYDRAULIC WICHITA, KS.  
(316) 263-8291  
PROJECT NO. 00-016-P  
DATE MARCH 29, 2000 SHEET 1 OF 4

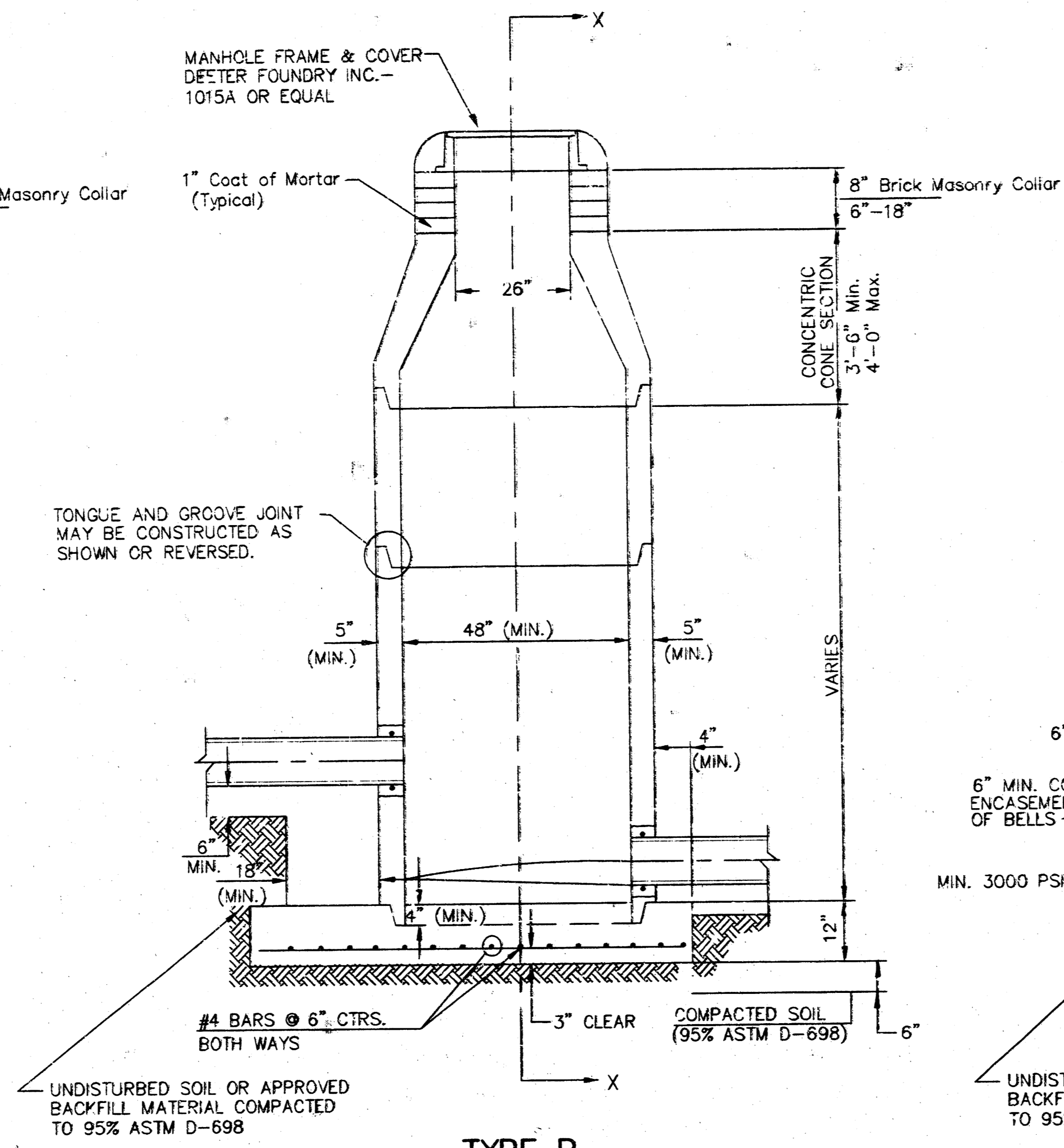
18-8-2-9

C:\SC2000\WORK\EASTMINSTER.SS.DWG

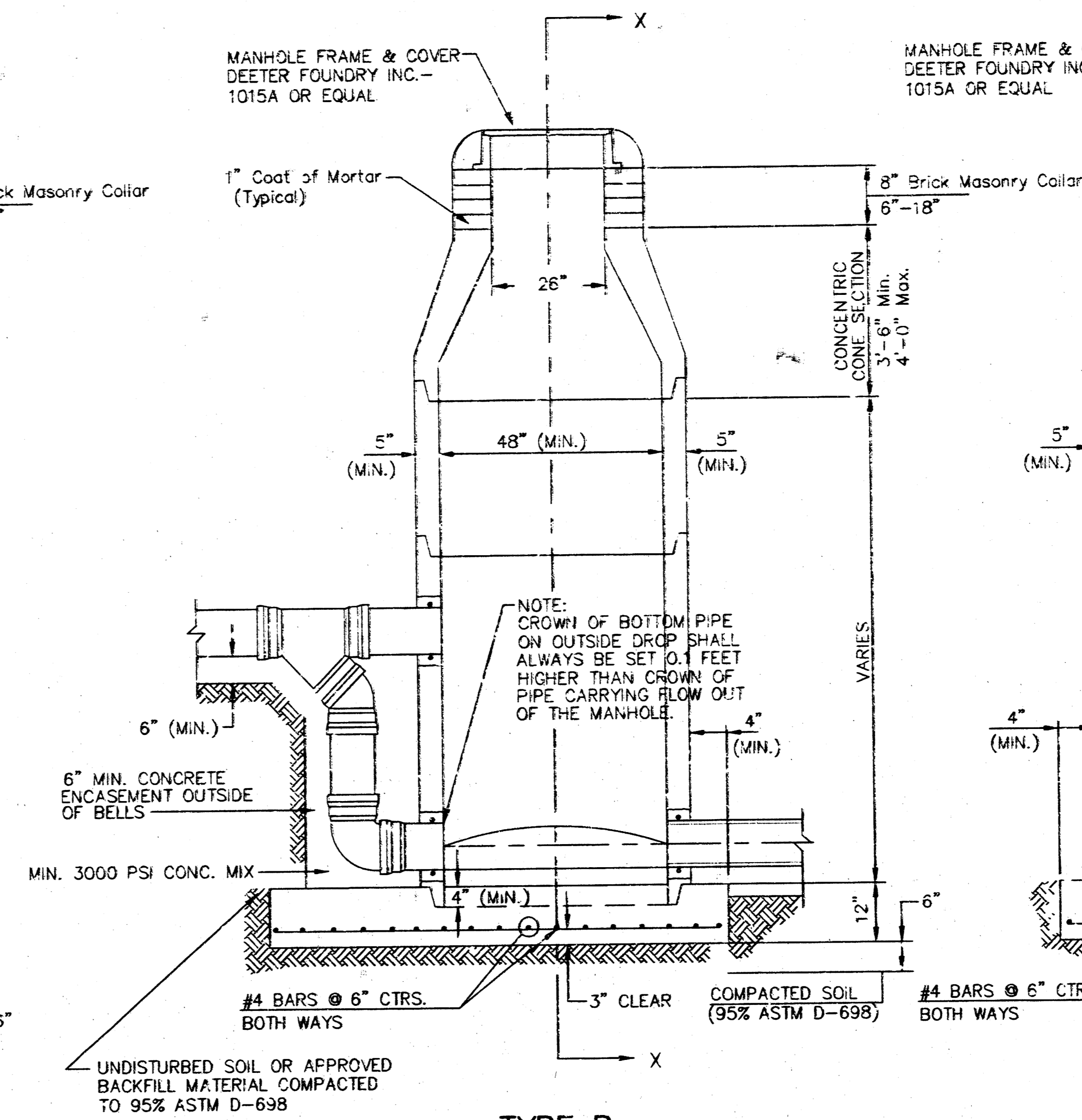
# SEWER APPURTENANCES DETAILS



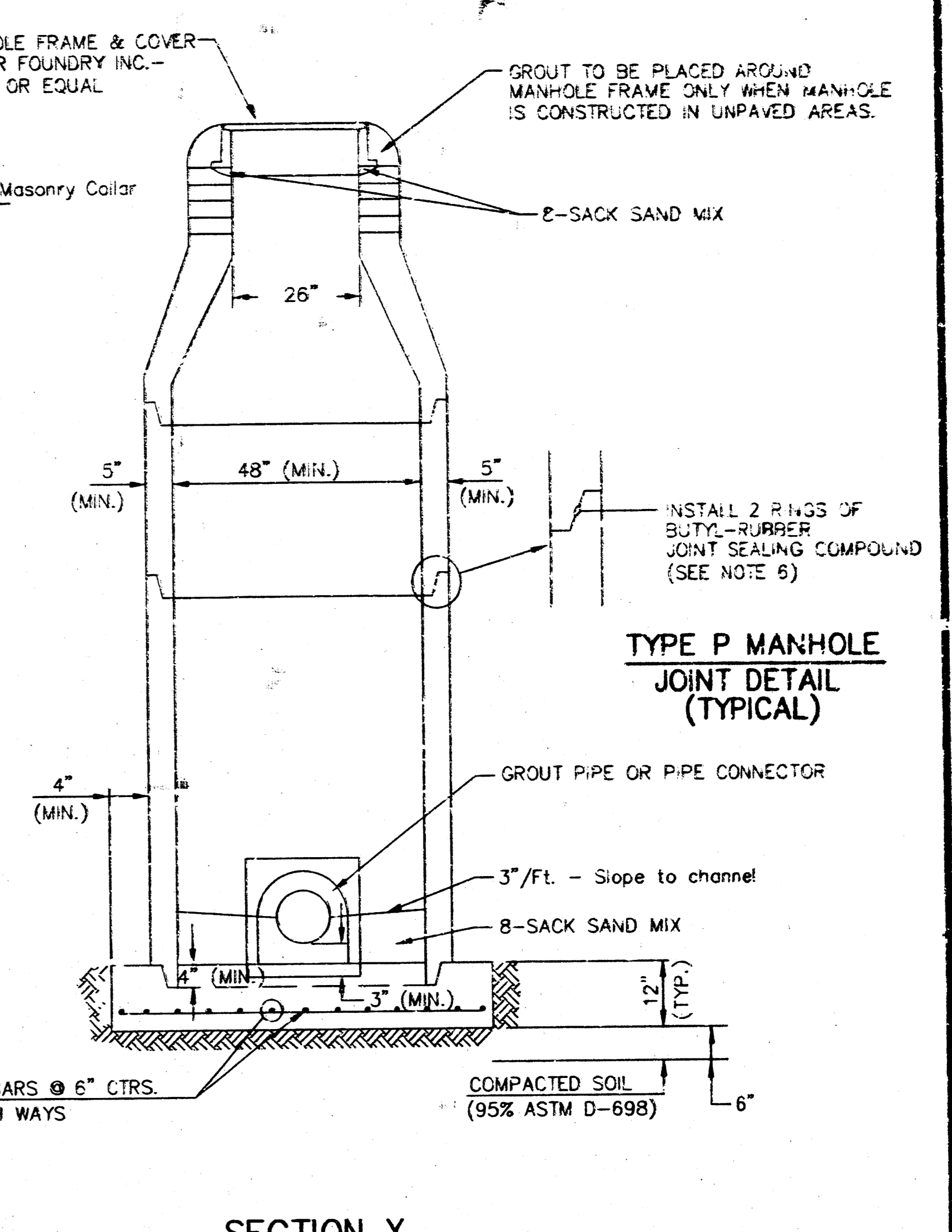
**TYPE P  
STANDARD MANHOLE**



**TYPE P  
INSIDE DROP MANHOLE**



**TYPE P  
OUTSIDE DROP MANHOLE**



**SECTION X  
(TYPICAL)**

**GENERAL NOTES**  
**PRECAST MANHOLE NOTES**

- ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
- NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
- APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN A.B.S. COMPOSITE PIPE OR P.V.C. PIPE IS USED. FOR OTHER TYPES OF PIPE THE SEWER SHALL BE GROUTED IN PLACE WITH NON-SHRINK GROUT. THE SEWER PIPE SHALL BE SUPPORTED WITH CONCRETE ENCASEMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR V.C.P. SUCH THAT THE JOINT REMAINS FLEXIBLE.
- ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS TNEPEC SERIES 66 HI-BUILD EPOXOLINE, DRY THICKNESS OF 8 MILS (MIN.)
- EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINOUS COATING.
- JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.
- PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.
- TOP OF MANHOLE FLOOR SLAB SHALL BE AT LEAST 3 INCHES BELOW THE FLOW LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF SHAPED INVERT.
- LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
- MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE AN INSIDE DIAMETER OF 4". MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE 24" OR LARGER SHALL HAVE AN INSIDE DIAMETER OF 5". COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.

- REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED AT LEAST 3" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
- OPENINGS SHALL BE CUT INTO THE MANHOLE WALL WHEN OUTSIDE DROPS ARE CONSTRUCTED ON EXISTING MANHOLES. SUCH OPENINGS CUT INTO EXISTING MANHOLES SHALL BE AS PRACTICAL TO FACILITATE INSTALLING AND GROUTING THE NEW PIPE IN PLACE. WATERSTOP GASKETS SHALL BE USED WITH P.V.C. AND A 1" COMPOSITE PIPE. THE NEW PIPE SHALL BE GROUTED INTO THE OPENING USING AN APPROVED NONSHRINK GROUT FOR THE FULL MANHOLE WALL THICKNESS. THE EXTERIOR OF THE COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT. FLOOR OF MANHOLE SHALL BE MODIFIED TO FORM NEW FLOW CHANNEL FOR THE NEW CONNECTION AS INDICATED BY THE DRAWING. THIS WORK, INCLUDING MODIFICATION OF MANHOLE FLOOR, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR OUTSIDE DROP STACK CONSTRUCTED ON EXISTING MANHOLE.
- THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF-CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS EXCEPT FOR INSIDE DROP MANHOLES. FLOW CHANNELS FOR INSIDE DROP MANHOLES SHALL BE CONSTRUCTED AS INDICATED BY THE DRAWING. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO NEAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.
- PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE. THE CRADLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF CRADLE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.

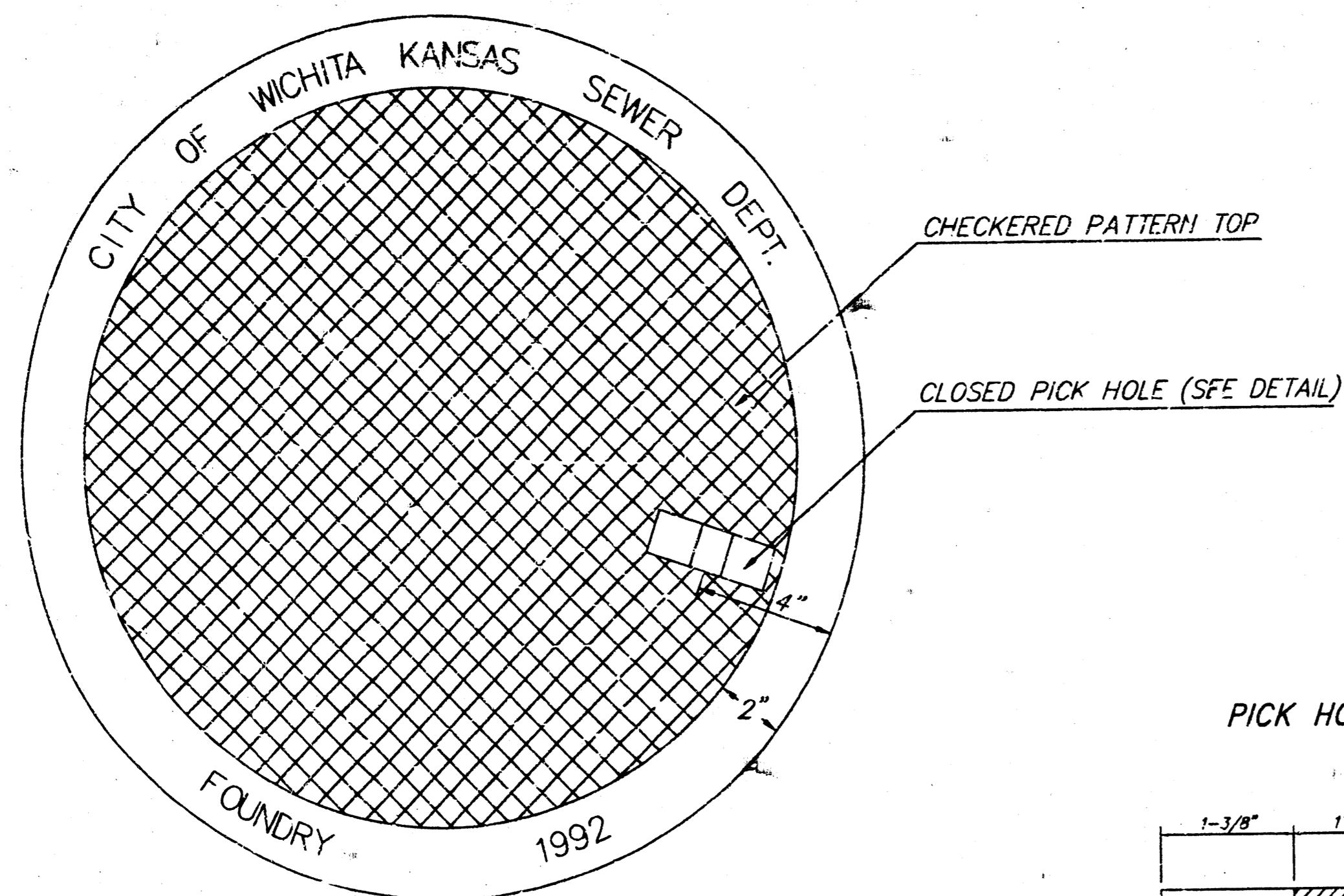
- MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWING.
- THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 2' FOR INFLOWING PIPES SIZED 12" OR SMALLER AND 2' FOR INFLOWING PIPES LARGER THAN 12". THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
- STANDARD MANHOLES AND STANDARD INSIDE DROP MANHOLES 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.
- A BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE CONCENTRIC CONE. THE COLLAR WILL HAVE 8" WALLS AND A VERTICAL HEIGHT OF 6" MINIMUM AND 18" MAXIMUM. A 1" COAT OF MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR. THE USE OF PRE-CAST CONCRETE SPACERS FOR MANHOLE TOP ADJUSTMENT IS ALSO ALLOWED.

	<b>STANDARD TYPE 'P' MANHOLES</b>
	SHEET 2 OF 4

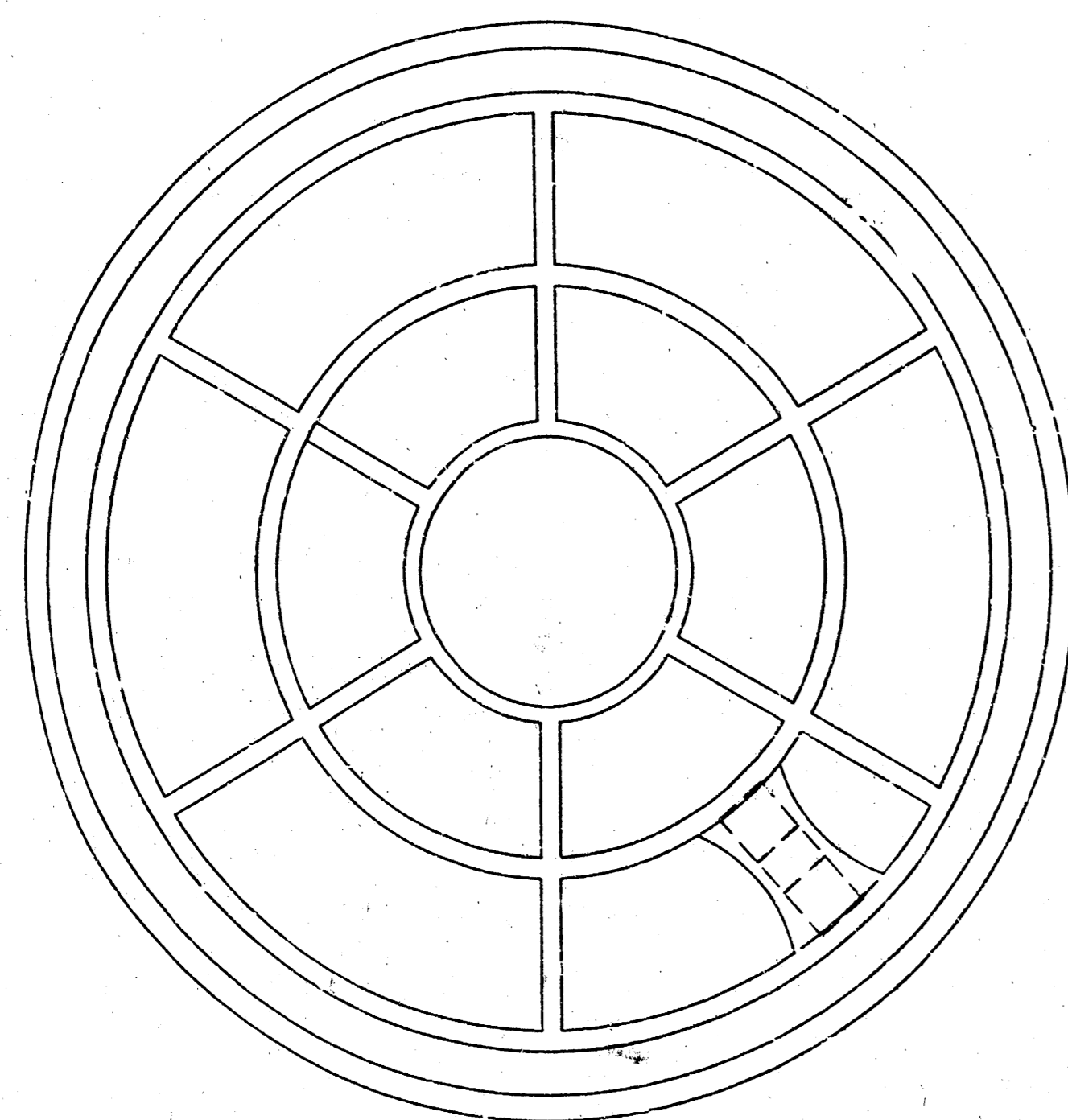
# MANHOLE FRAME AND COVER DETAIL

ADOPTED AS STANDARD DESIGN BY  
CITY OF WICHITA, KANSAS

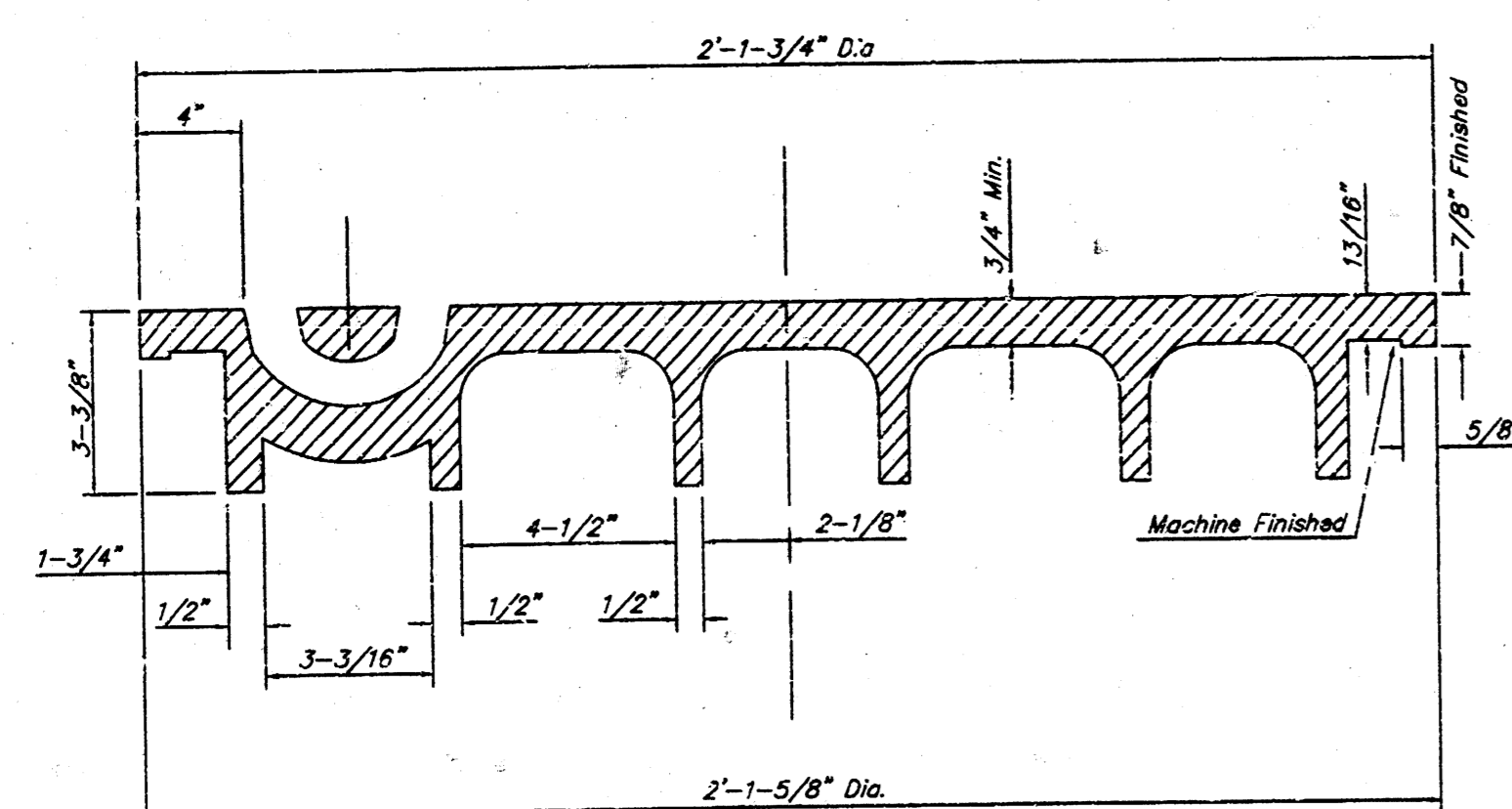
MANHOLE COVER  
Weight = 180 Lbs.



TOP VIEW

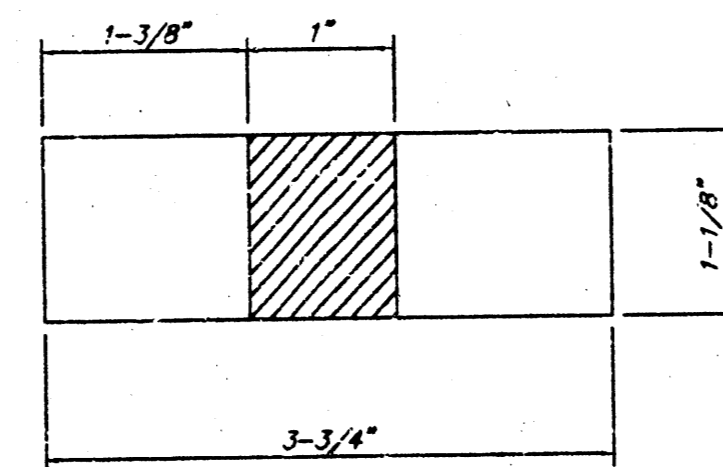


BOTTOM VIEW

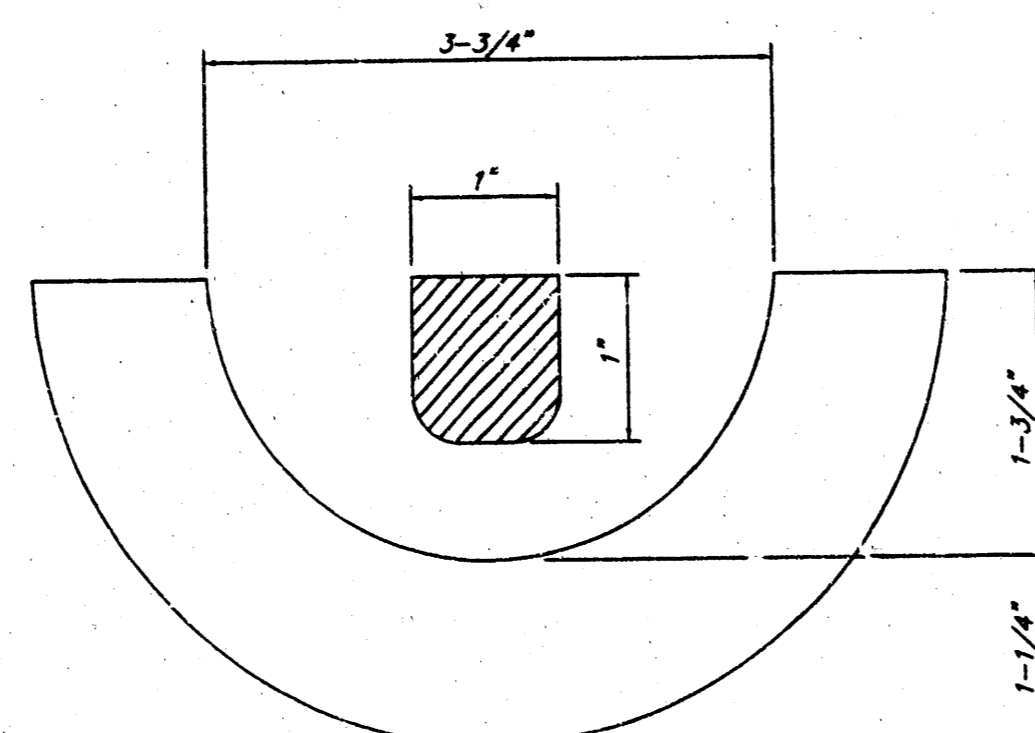


SECTION VIEW

PICK HOLE DETAIL

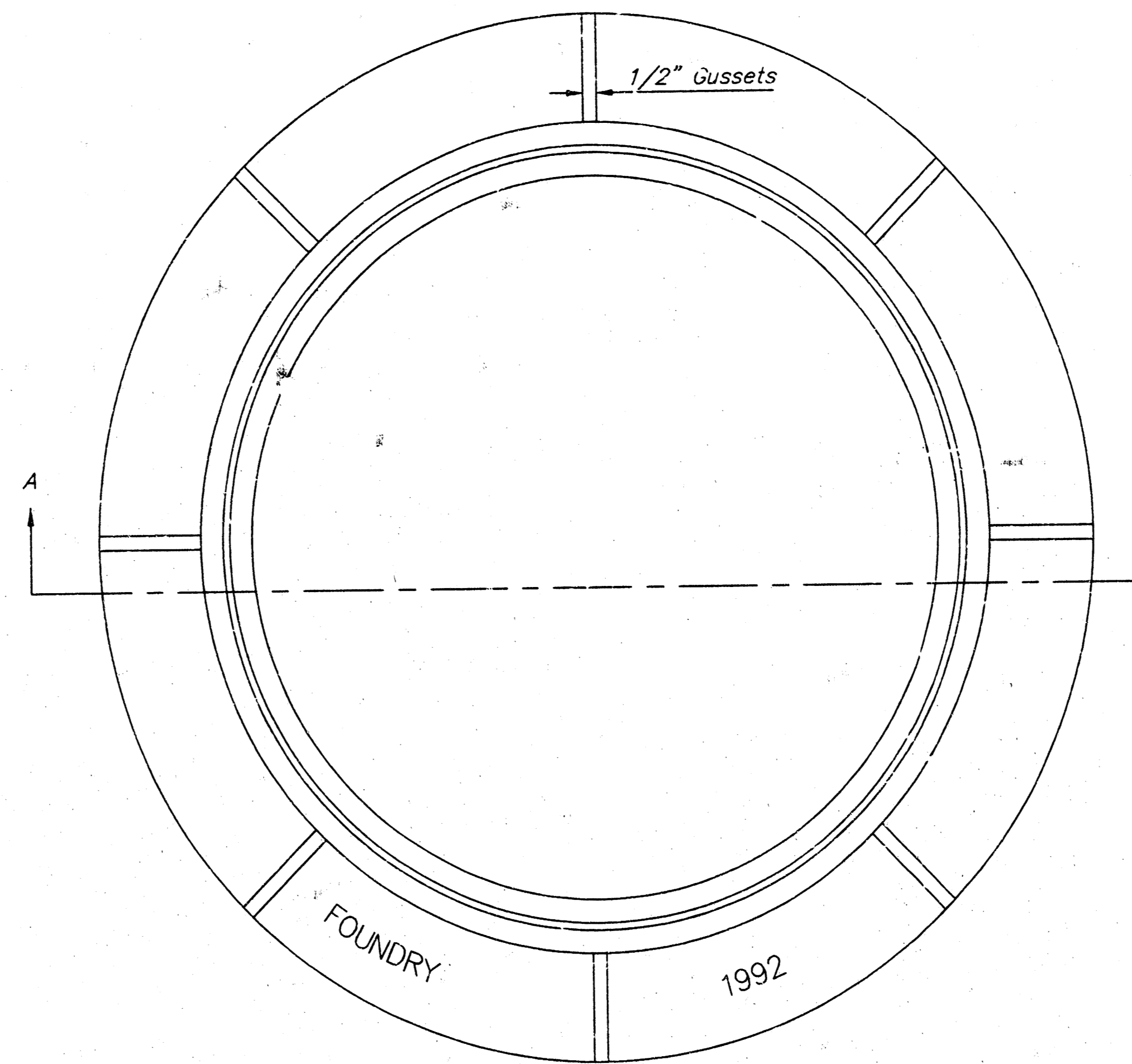


TOP VIEW

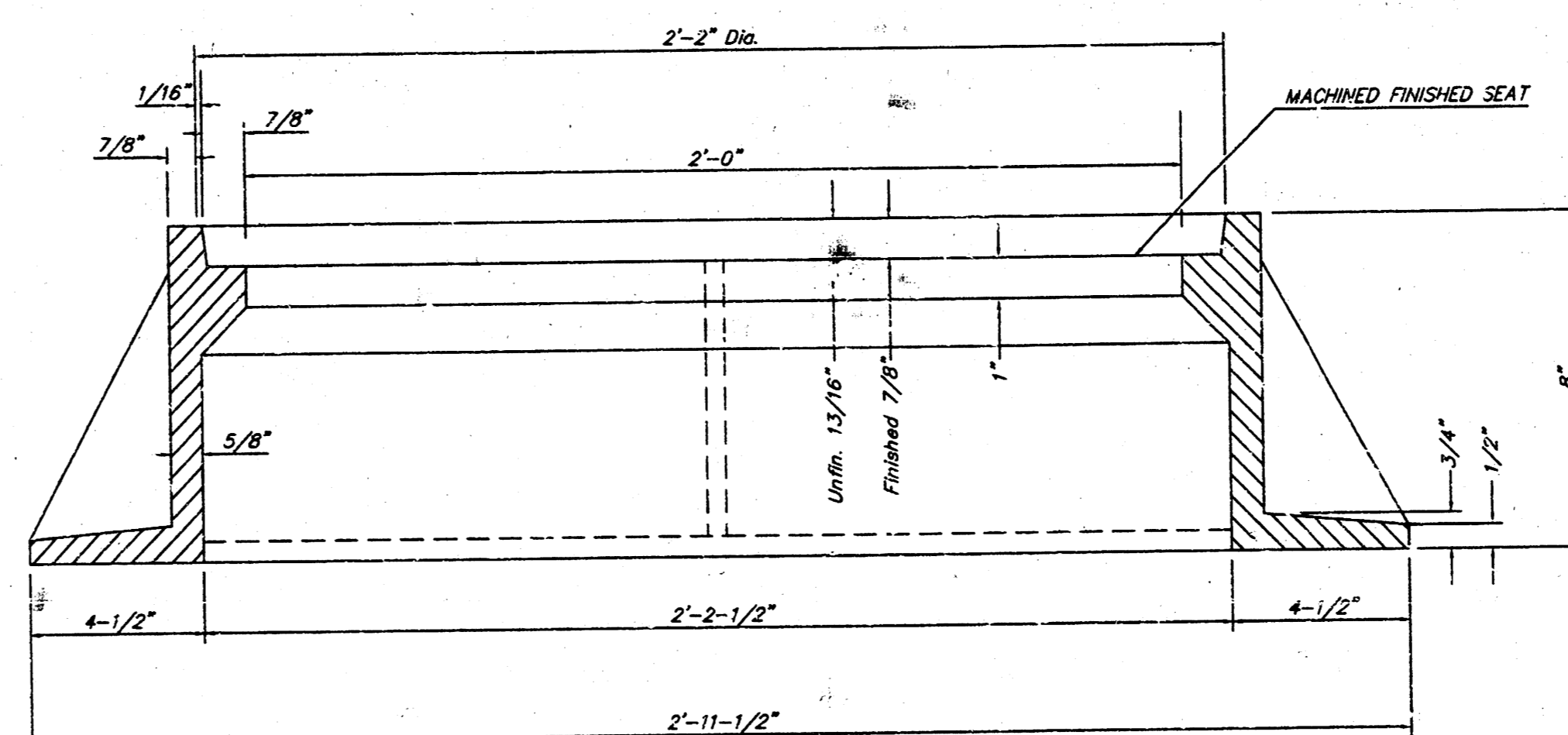


SECTION VIEW

MANHOLE FRAME  
Weight = 240 Lbs.



TOP VIEW



SECTION A-A

## GENERAL NOTES


MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A-48. DIMENSIONS AND WEIGHTS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER DEFECTS.

MANHOLE CASTINGS SHALL BE COATED WITH AN ASPHALT PAINT RESULTING IN A SMOOTH, TOUGH AND TENACIOUS COATING WHICH IS NOT BRITTLE OR TACKY.

MANHOLE CASTINGS SHALL BE MANUFACTURED SUCH THAT A COVER MANUFACTURED BY ANY ONE FOUNDRY WILL FIT INTERCHANGEABLY INTO A FRAME MANUFACTURED BY ANOTHER FOUNDRY AND STILL MEET ALLOWABLE CLEARANCES AND NON-ROCKING REQUIREMENTS. THIS WILL REQUIRE MANUFACTURING OF THE MATCHING FACES ON THE COVER AND THE FRAME TO CLOSE TOLERANCES.

THE OUTSIDE CIRCUMFERENCE OF THE VERTICAL FACE OF THE COVER AND THE INSIDE CIRCUMFERENCE OF THE VERTICAL FACE IN THE FRAME RECESS SHALL BE MANUFACTURED TO TOLERANCES SUCH THAT THE CLEARANCE BETWEEN THE COVER AND FRAME WILL NOT EXCEED 1/8" AT ANY POINT AROUND THE CIRCUMFERENCE OF THE COVER. THE SEATING SURFACES BETWEEN THE COVER AND FRAME SHALL BE MACHINED SUCH AS THESE SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.

THE MANHOLE FRAME AND COVER SHALL BE MARKED WITH LETTERING INDICATING THE NAME OF THE MANUFACTURER AND THE YEAR WHEN THE COVER OR FRAME WAS CAST. THE COVER SHALL BE FURTHER IDENTIFIED WITH REGARDS TO OWNERSHIP USING LETTERS AT LEAST 1 INCH IN HEIGHT. THIS IDENTIFICATION SHALL BE "CITY OF WICHITA SEWER DEPARTMENT". THE WORD DEPARTMENT MAY BE ABBREVIATED. THE TEXTURE OF THE TOP SURFACE OF THE COVER SHALL BE MANUFACTURED IN A CHECKERED PATTERN DESIGN AS INDICATED ON THE DRAWINGS. SMOOTH BLOCKOUTS SHALL BE UTILIZED TO HIGHLIGHT THE LETTERING ON THE COVER SURFACE. THE TOTAL AREA OF SMOOTH SURFACE BLOCKOUT SHALL NOT EXCEED THE AREA AS INDICATED ON THE DRAWING. POSITIONING OF SMOOTH BLOCKOUTS AND LETTERING MAY VARY FROM THAT SHOWN ON THE DETAILED DRAWING.

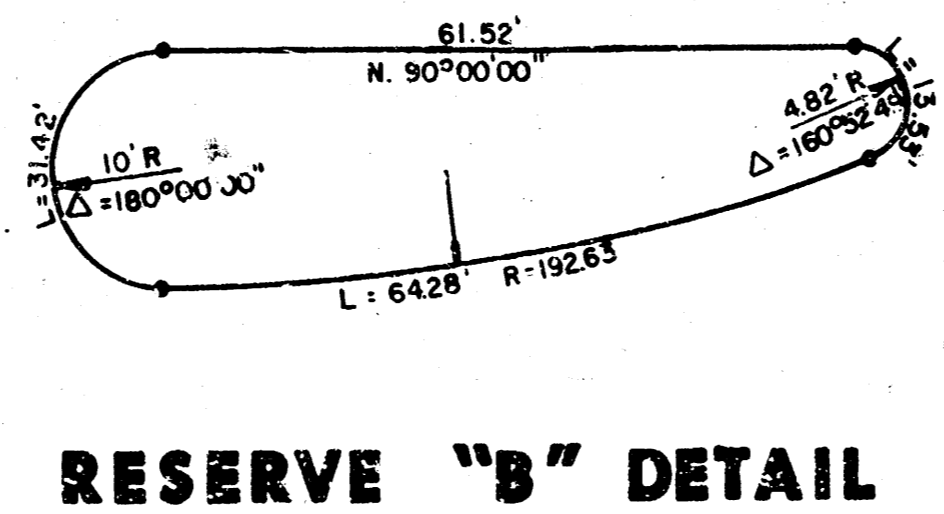
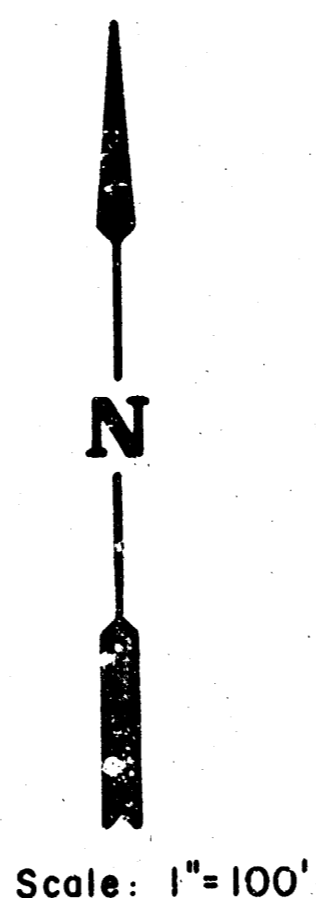
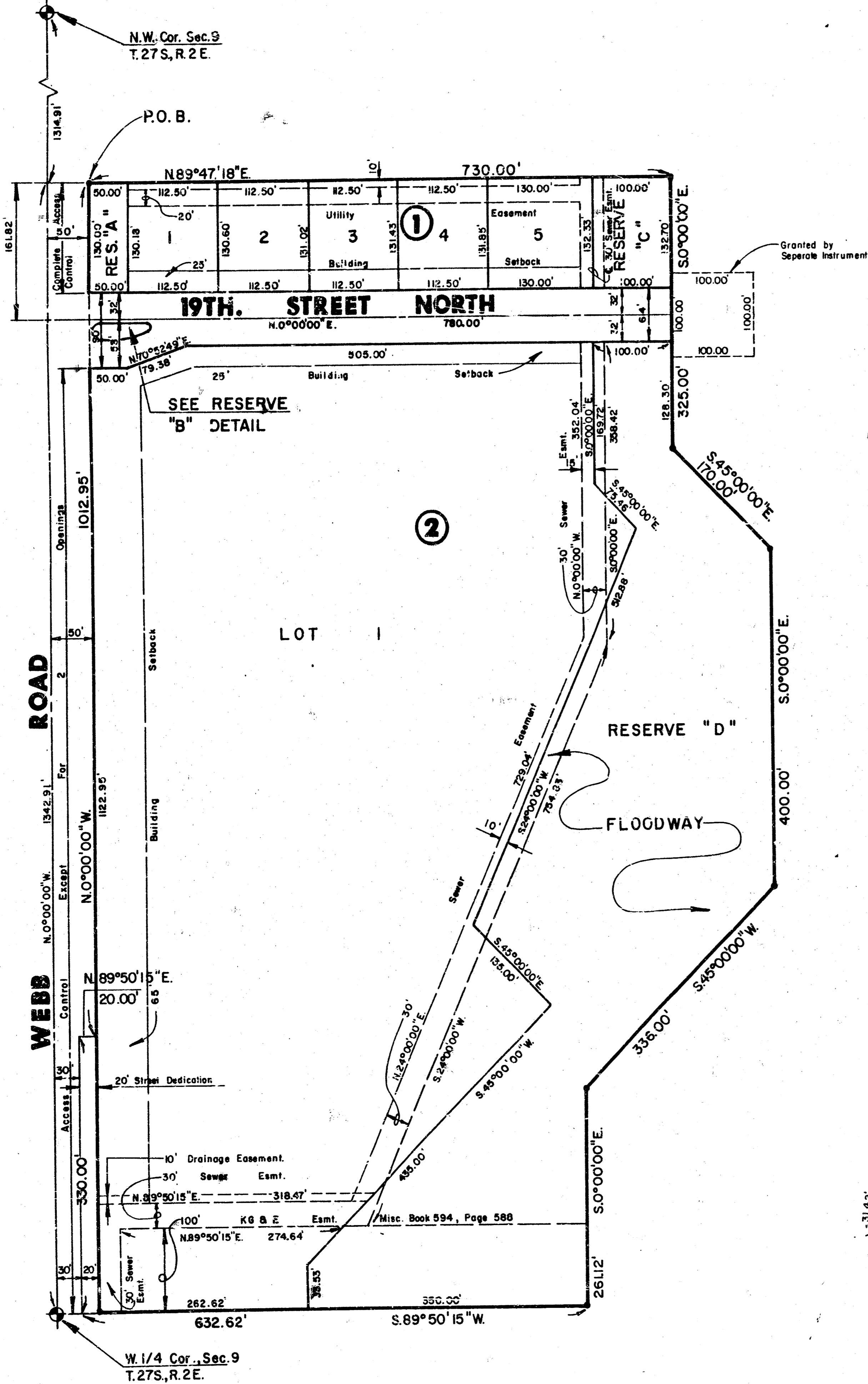
 THE CITY OF WICHITA CITY ENGINEER'S OFFICE CITY HALL - SIXTH FLOOR 408 NORTH MAIN STREET WICHITA, KANSAS 67202 (316) 252-1201 (316) 252-1114 FAX	<b>MANHOLE FRAME AND COVER</b>	
	M. E. LINDEBAK P.E. - CITY ENGINEER	
	PROJECT NUMBER 999 PPS	INDEX CODE 607861
	DATE MAR 96	SHEET 3 OF 4

19-86

19-86

# FINAL PLAT OF EASTMINSTER

## AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS



I, Kenneth H. Bengtson, a Civil Engineer in Kansas, do hereby certify that I have been in responsible charge of surveying and platting of "EASTMINSTER", an addition to Wichita, Sedgwick County, Kansas into Lots, Blocks, Streets and Reserves, the same being accurately set forth in the accompanying plat and described as follows:

A tract of land lying within the northwest quarter of Section 9, Township 27 south, Range 2 east of the 6th P.M., more particularly described as follows:

Commencing at the northwest corner of said northwest quarter; thence on an assumed bearing S 00° 00' 00" E, 1314.91 feet along the west line of said northwest quarter to a point 1342.91 feet north of the southwest corner of said northwest quarter; thence N 89° 47' 18" E, 50.00 feet parallel and 14.00 feet north of the north line of the southwest quarter of said northwest quarter to the point of beginning; thence N 89° 47' 18" E, 730.00 feet parallel and 14.00 feet north of the north line of the southwest quarter of said northwest quarter; thence S 00° 00' 00" E, 325.00 feet; thence S 45° 00' 00" E, 170.00 feet; thence S 00° 00' 00" E, 400.00 feet; thence S 45° 00' 00" W, 336.00 feet; thence S 00° 00' 00" E, 261.12 feet to a point on the south line of said northwest quarter; thence along the south line of said northwest quarter S 89° 50' 15" W, 632.62 feet to a point 30.00 feet east of the west line of said northwest quarter; thence N 0° 00' 00" E, 330.00 feet parallel and 30.00 feet east of the west line of said northwest quarter; thence N 89° 50' 15" E, 20.00 feet to a point 50.00 feet east of the west line of said northwest quarter; thence N 0° 00' 00" E, 1012.95 feet parallel and 50.00 feet east of the west line of said northwest quarter to the point of beginning.

I hereby certify that the details of this plat are correct to the best of my knowledge and belief this 5 day of March 1986.

*Kenneth H. Bengtson*  
Kenneth H. Bengtson, P.E.  
Mid-Kansas Engineering Consultants, P.A.  
3500 W. Rock Road, Bldg. 800  
Wichita, KS 67226

Know all men by these presents that we the undersigned property owners of the land as above set forth in the Civil Engineers Certificate, have caused the same to be surveyed and platted into Lots, Blocks, Streets, and Reserves, the same to be known as "EASTMINSTER", an addition to Wichita, Sedgwick County, Kansas. The streets are hereby dedicated to and for the use of the public. Easements for the construction and maintenance of public utilities and drainage, as indicated on the accompanying plat are hereby granted. Reserves "A", "B", "C", and "D", are platted for construction and maintenance of public utilities and landscaping. Reserves "A" and "B" are also platted for entry monuments. Reserve "C" is also platted for drainage. Reserve "D" is platted for floodway purposes. All reserves shall be owned and maintained by the Homeowners Association. The floodways shall be the responsibility of the owners until such time as the governing body exercising jurisdiction elects to assume the responsibility for the maintenance and improvement of the drainage, provided further, that no structure shall be constructed on or within said floodway, nor shall any fill, change of grade, creation of channel or other work be carried on without the permission of the City Engineer. All abutters' rights of access to or from Webb Road over and across the west line of Lot 1, Block 2 and the west line of Reserve "A" of "EASTMINSTER" are hereby granted to the City of Wichita, Kansas except Lot 1, Block 2 shall have access at two locations to Webb Road as determined by the City Engineer.

Eastminster United, Presbyterian Church  
By: *William A. Boettger*  
William A. Boettger, President  
Board of Trustees

STATE OF KANSAS )  
SEDGWICK COUNTY )

Be it remembered that on this 5th day of March 1986, before me a Notary Public in and for said State and County, came William A. Boettger, President, Board of Trustees, on behalf of Eastminster United Presbyterian Church, to me personally known to be the same person who executed the foregoing instrument of writing and duly acknowledged the execution of the same. In testimony whereof I have hereunto set my hand and affixed my notarial seal the day and year above written.

*Mary Ellen Schaefer*, Notary Public  
My Appointment Expires: 1-31-87

This plat of "EASTMINSTER" has been submitted to and approved by the Wichita-Sedgwick County Metropolitan Area Planning Commission, Wichita, Kansas.

Dated this 20th day of February, 1986.

WICHITA-SEDGWICK COUNTY METROPOLITAN AREA PLANNING COMMISSION  
*William J. Goebel*, Chairman  
William J. Goebel  
*Michael S. Stahl*, Secretary  
Michael S. Stahl

This plat approved and all dedications shown hereon, if any, accepted by the City Commission of the City of Wichita, Kansas, this 10th day of March, 1986.

*Robert C. Brown*, Mayor  
Robert C. Brown  
*Donald C. Blisick*, City Clerk  
Donald C. Blisick

Entered on transfer record this 25 day of March 1986.

*Jim Powell*, County Clerk  
Jim Powell

STATE OF KANSAS )  
SEDGWICK COUNTY )

This is to certify that this instrument was filed for record in the Register of Deeds office this 25th day of March 1986.

*Pat Kettler*, Register of Deeds  
Pat Kettler  
*Ed Resa*, Deputy  
Ed Resa

*Restrictive Covenant F 727 B 1214*

18 08 05 08

45-40

A 5-10