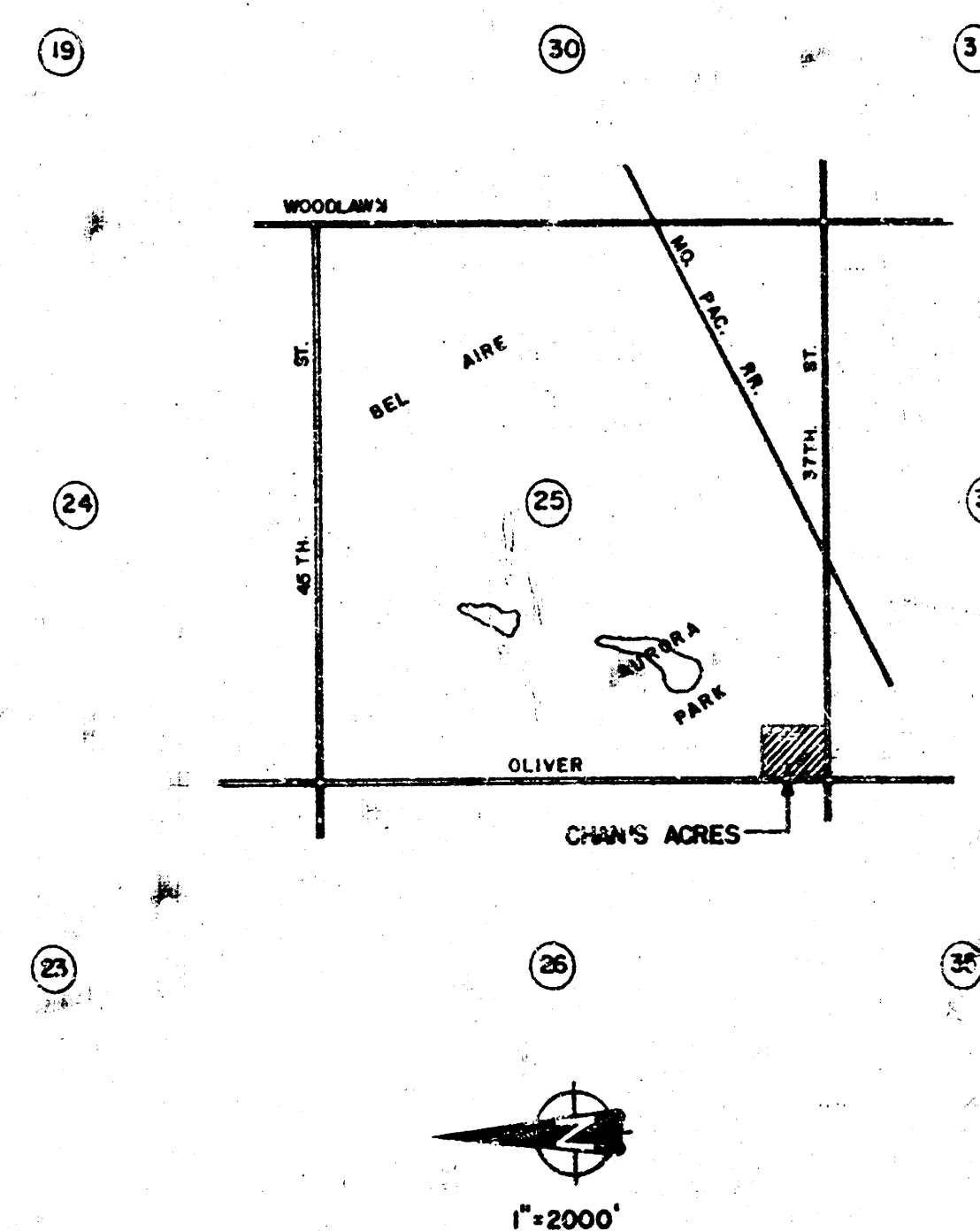


PLANS
FOR
WATER and SANITARY SEWER EXTENSIONS
CHAN'S ACRES
CITY OF BEL AIRE, KANSAS
1982



THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY LINES. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN ANY EXISTING UTILITY LINES. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN ANY EXISTING UTILITY LINES. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN ANY EXISTING UTILITY LINES.

NOTE TO CONTRACTOR

This project will be constructed under the supervision of the CITY ENGINEER and conforming to the SPECIFICATIONS of the CITY OF WICHITA. The CONTRACTOR will provide the City of Wichita for all costs of inspection.

CITY OF WICHITA

APPROVED: Approval does not relieve the contractor from any responsibility for errors or omissions from the contract requirements of the city engineer.

Date: 11/16/82

Engineering Div. [Signature]

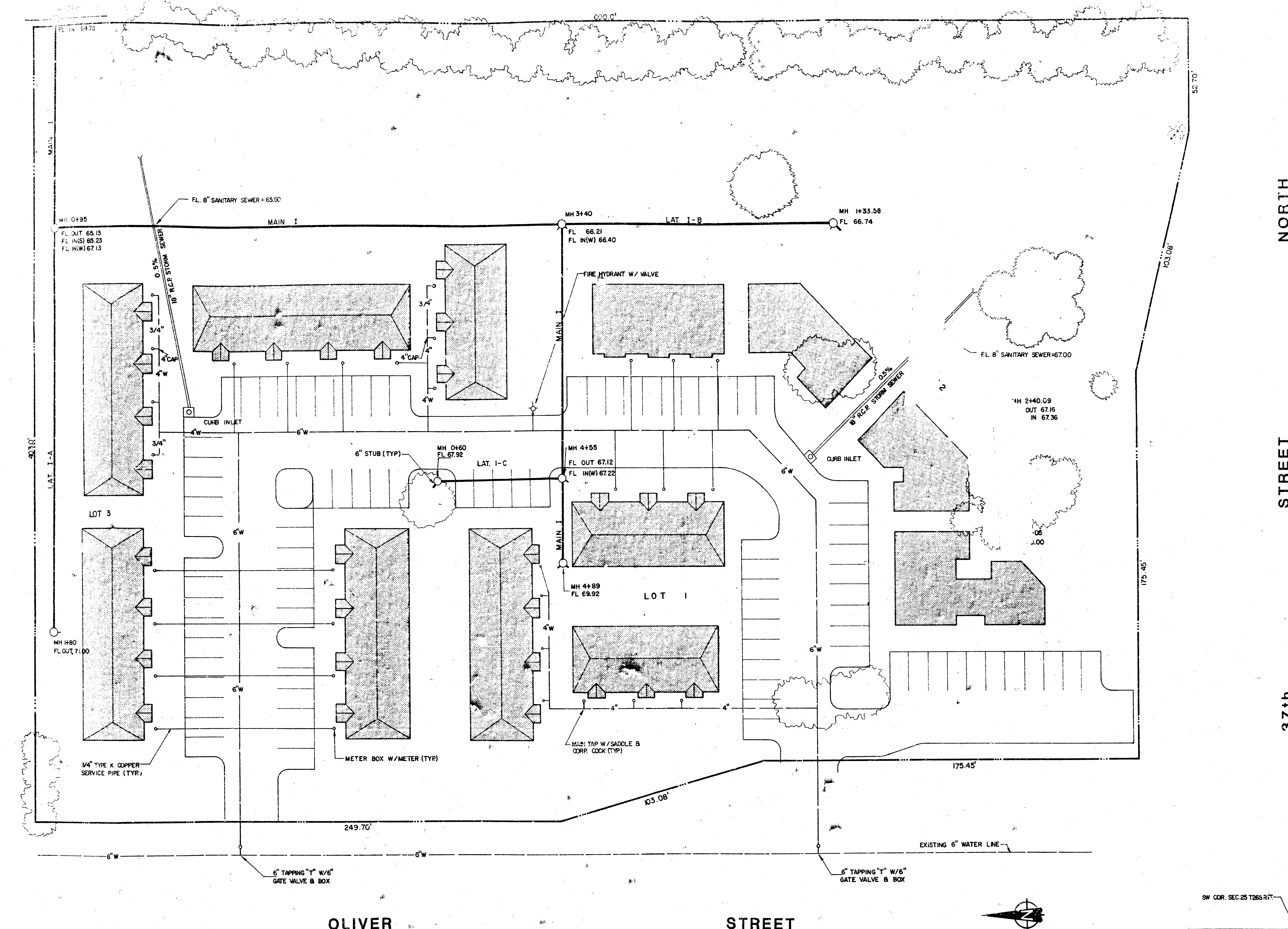
[Signature]

DEISS & GOODNESS ENGINEERS
2100 WEST 21st STREET
WICHITA, KANSAS 67204
(316) 632-0213

WICHITA PROJ. NO. 468-76-245-80000-000-000-008

REVISION	DRAWN BY	CHECKED BY	DESIGNED BY	PROJECT	CUSTOMER	SCALE GIVEN	DATE	REVISED	PROJECT NO.	SHEET NO.
							9-22-82	11-3-82		1 OF 7

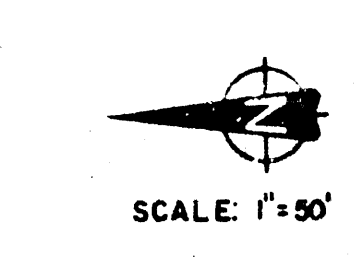
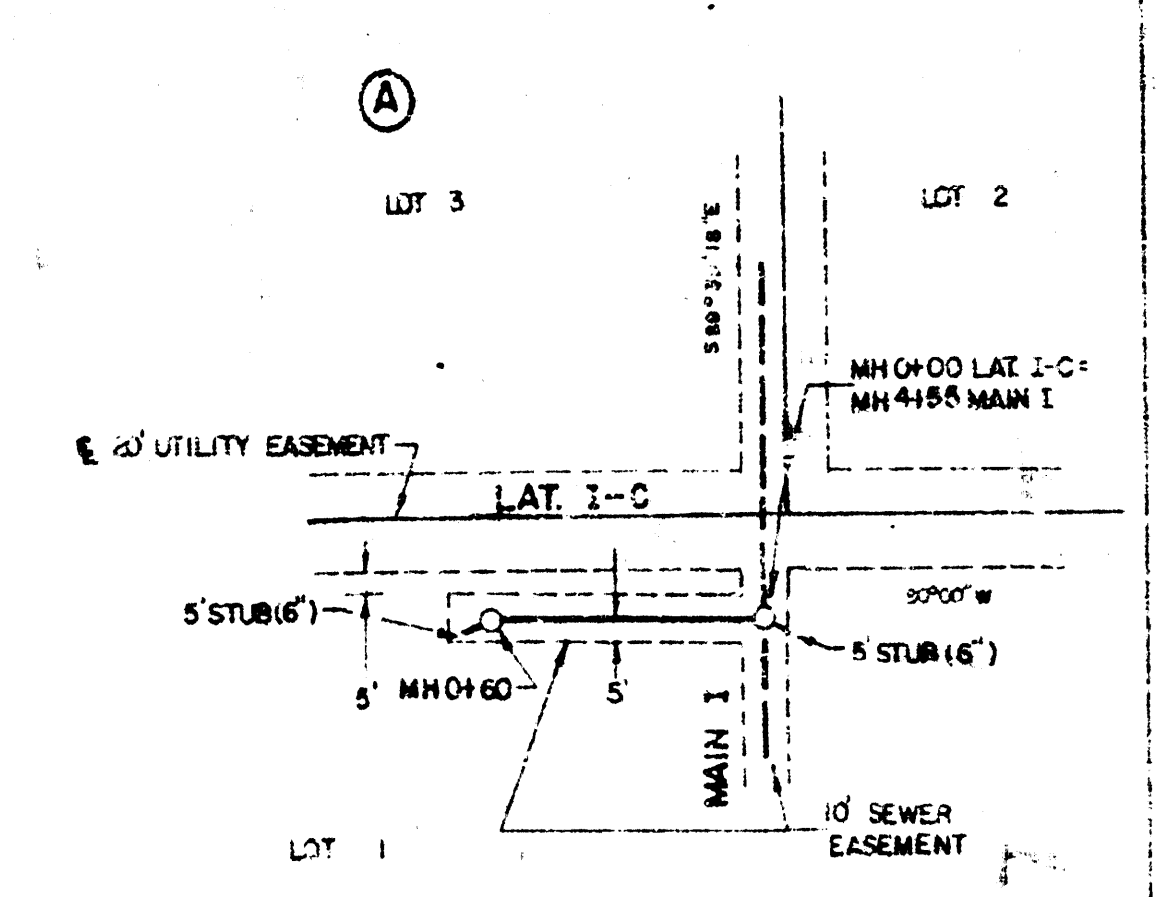
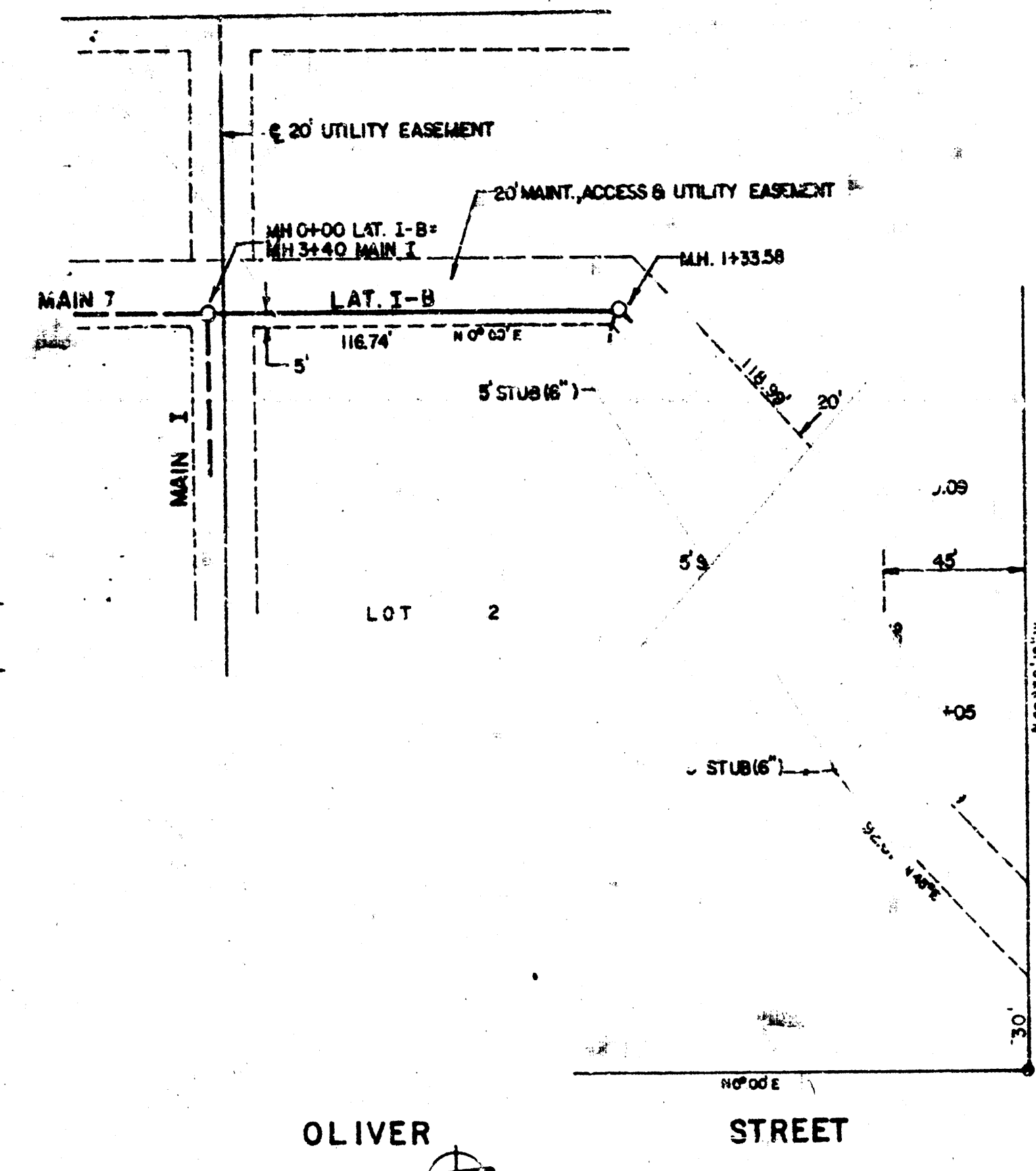
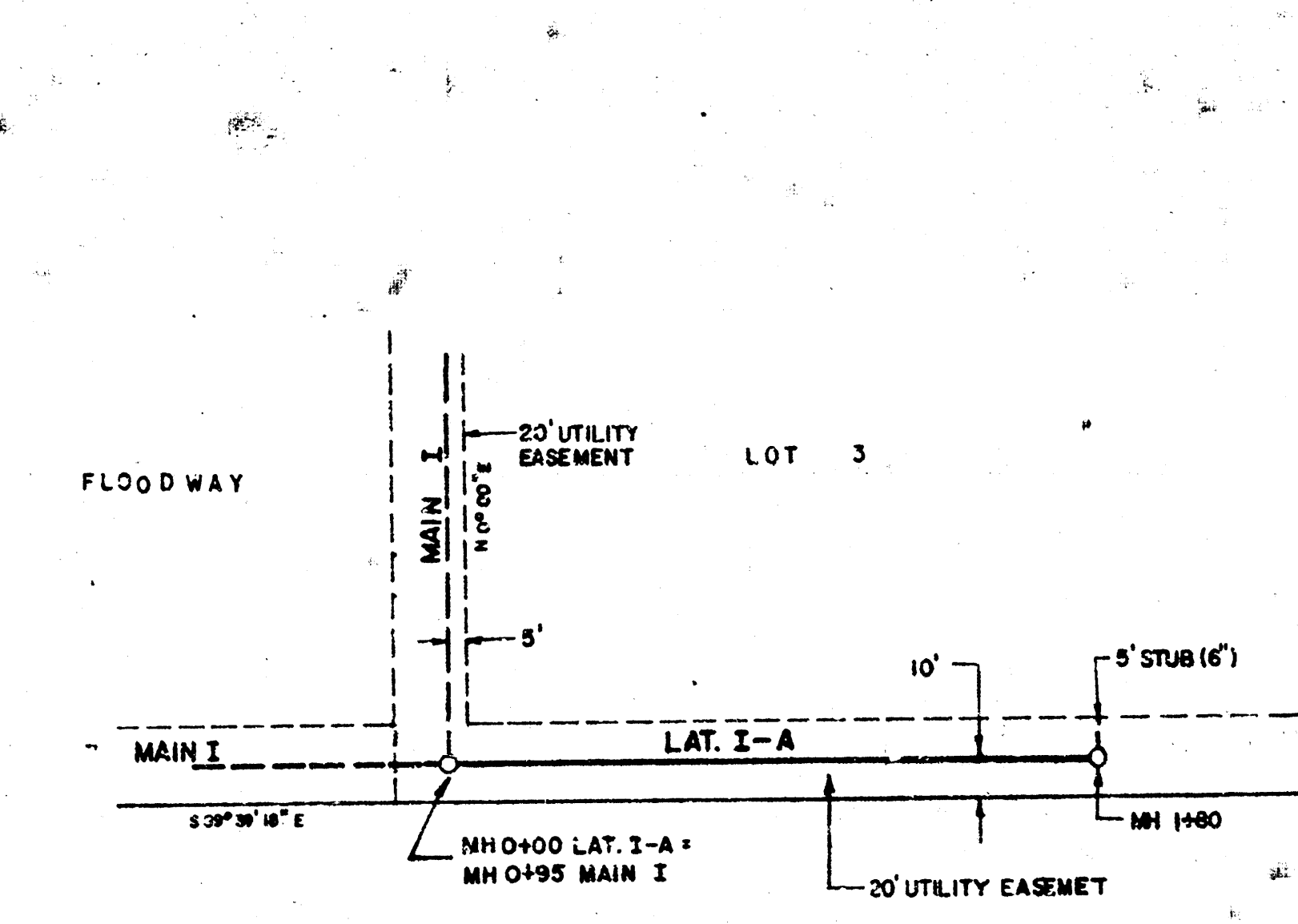
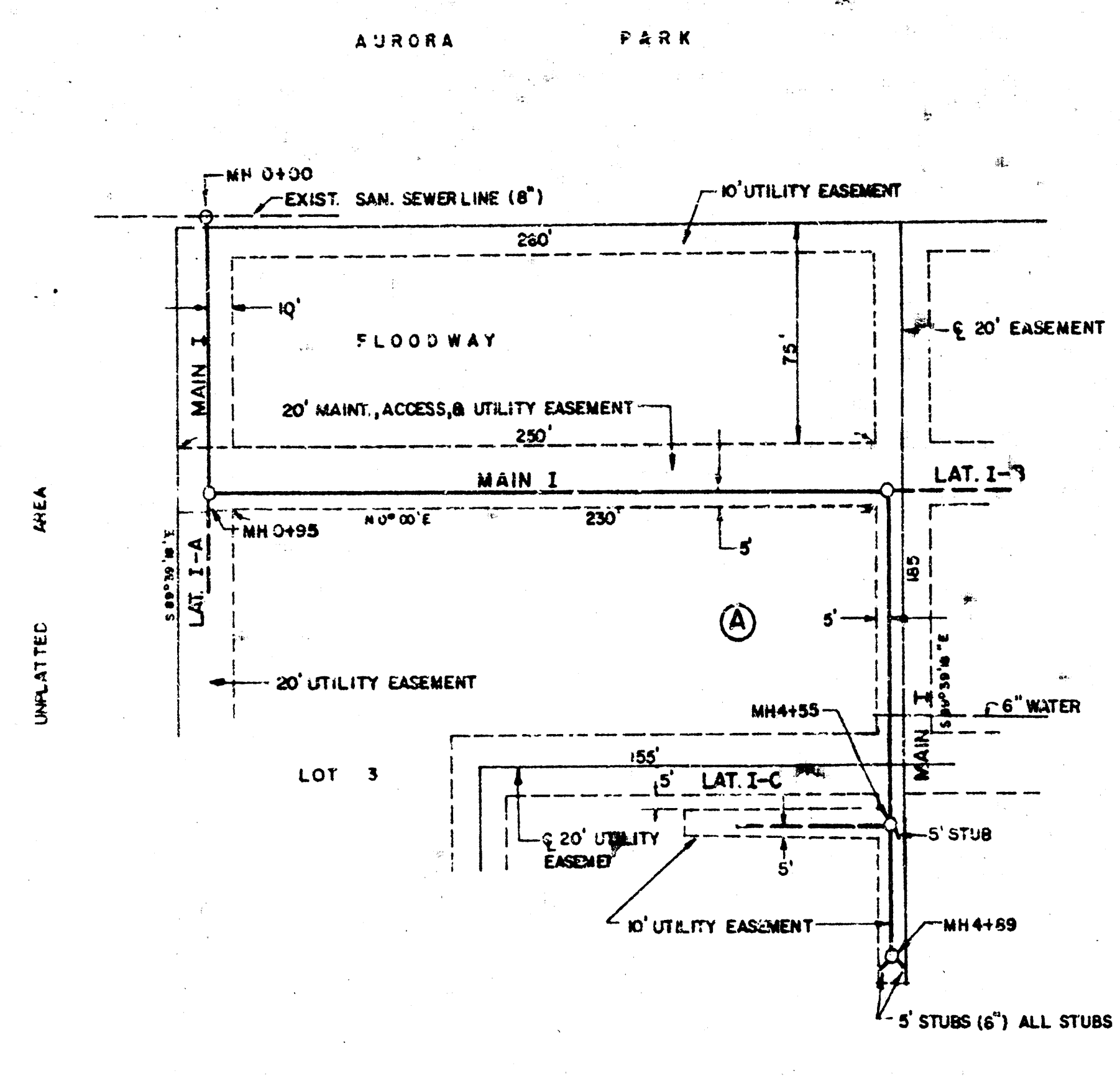
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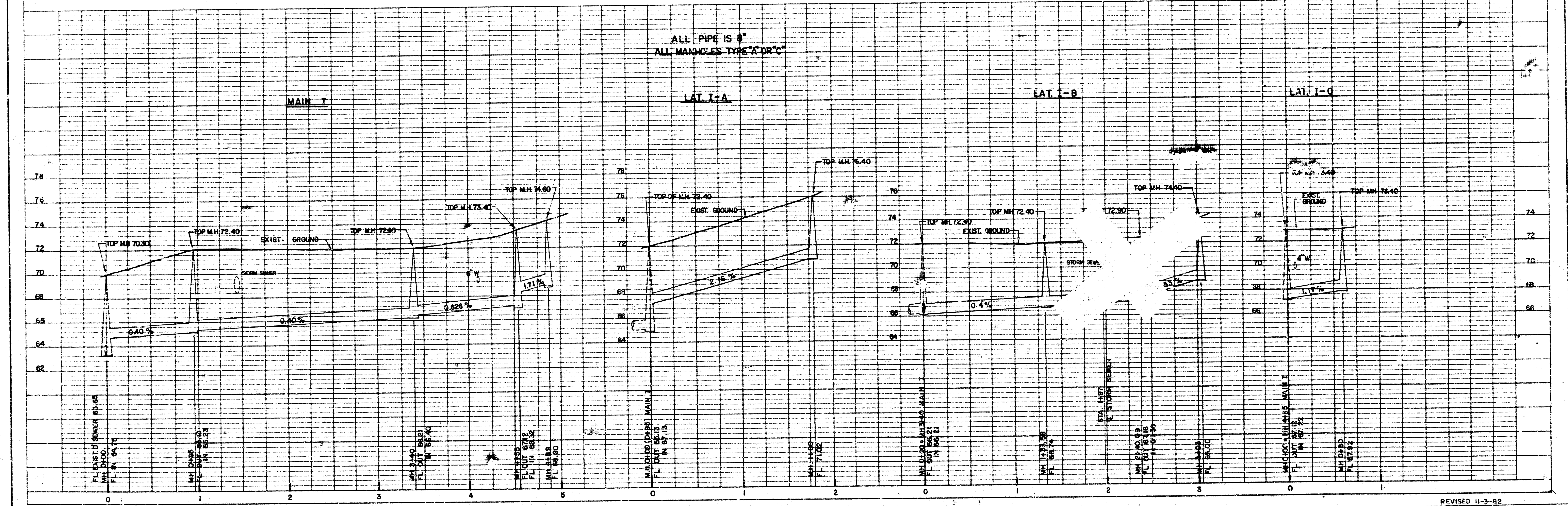
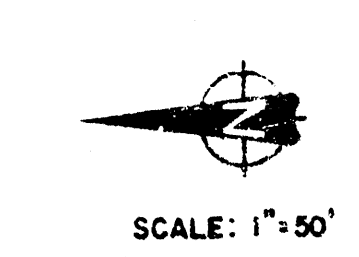
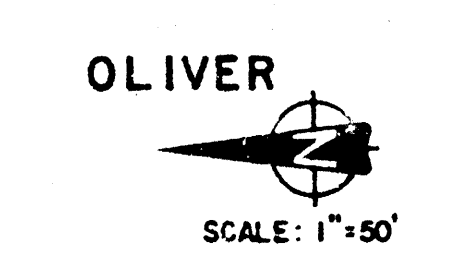
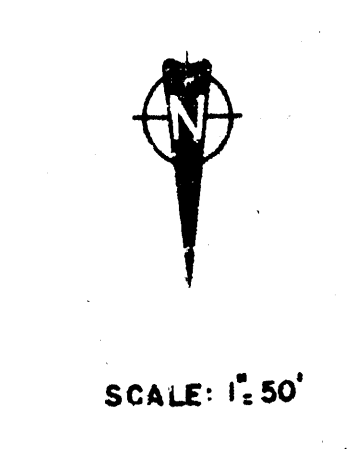
REVISION	DRAWN BY	CHECKED BY	DESIGNED BY	PROJECT	CUSTOMER
				CHAN'S ACRES	BEL AIRE SEDGWICK COUNTY, KANSAS

REISS & GOODNESS ENGINEERS
 2100 WEST 21st STREET
 WICHITA, KANSAS 67204
 (316) 832-0233
 SCALE: 1"=20'
 DATE: 9-22-82
 SHEET: 2/7

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BM
CITY STD. BRASS CAP IN SE HUB GUARD
OF R.C.B. ON SW COR. OLIVER & 37 TH. ST. NO.
EL. 1371.96
ADD 1300.00 TO ELEVATIONS SHOWN HEREON

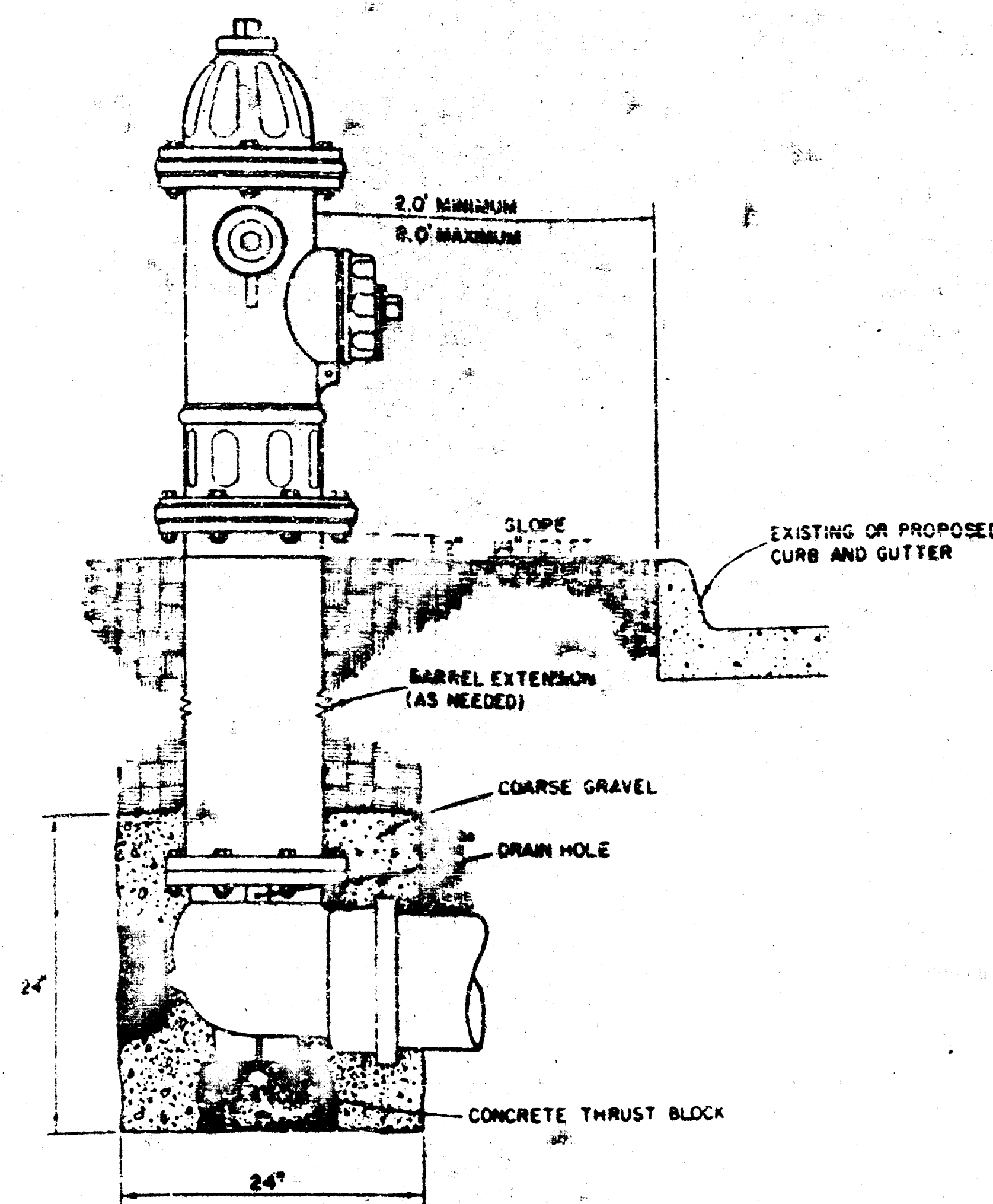


REVISION	DRAWN BY	CHECKED BY	DESIGNED BY	PROJECT	CUSTOMER	DATE	SHEET
				SANITARY SEWER EXTENSIONS	CHAN'S ACRES	9-22-82	3 OF 7

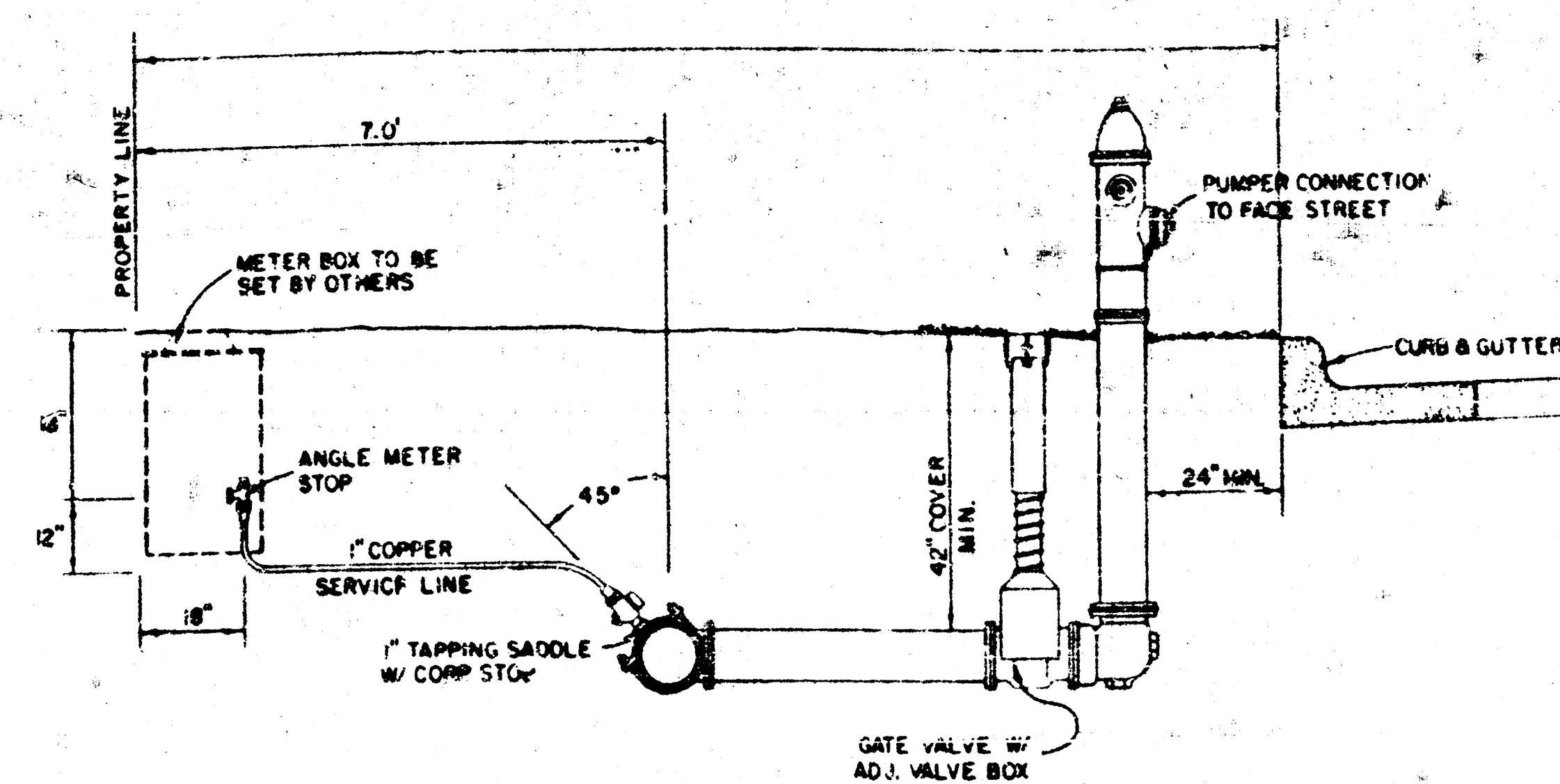
REVISED 11-3-82
DEISS & GOODNESS ENGINEERS
2100 WEST 21ST STREET
WICHITA, KANSAS 67203
(316) 632-0283

WICHITA PROJ. NO. 468-75-245-80000-000-000-008

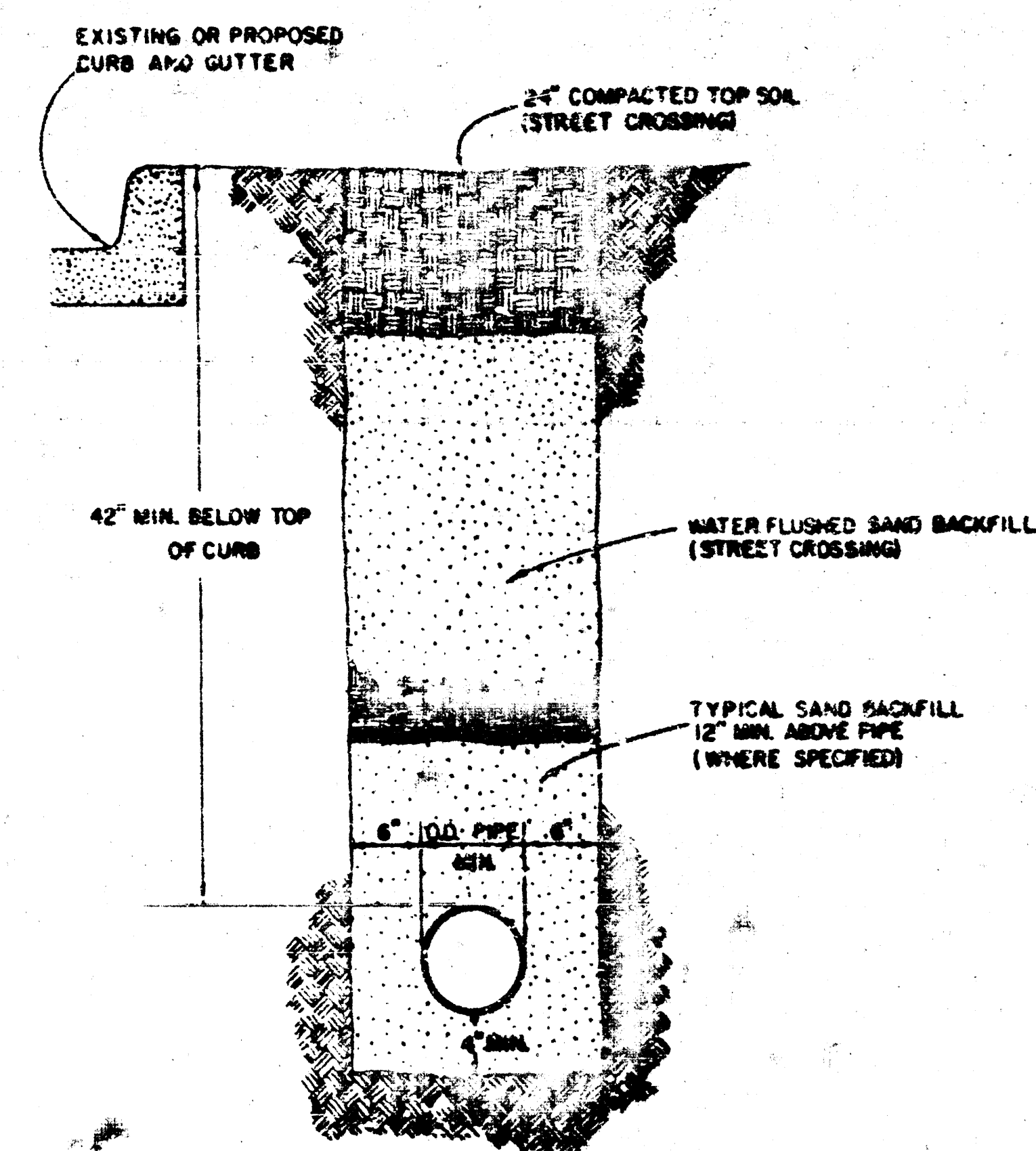
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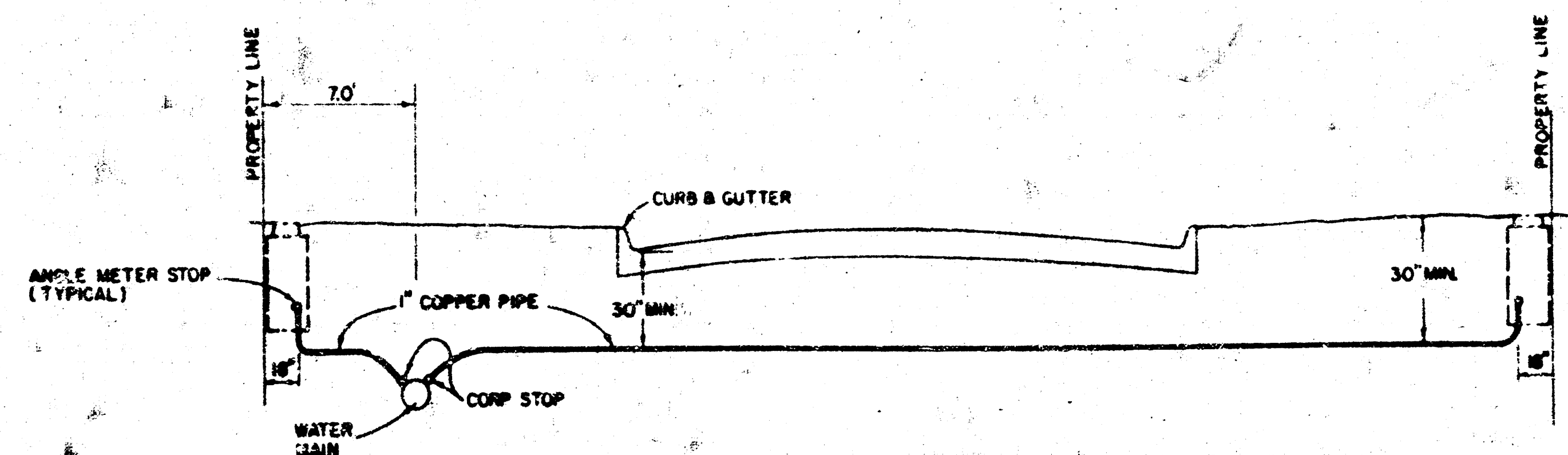
FIRE HYDRANT SETTING DETAIL



TYPICAL SERVICE & FIRE HYDRANT LOCATION

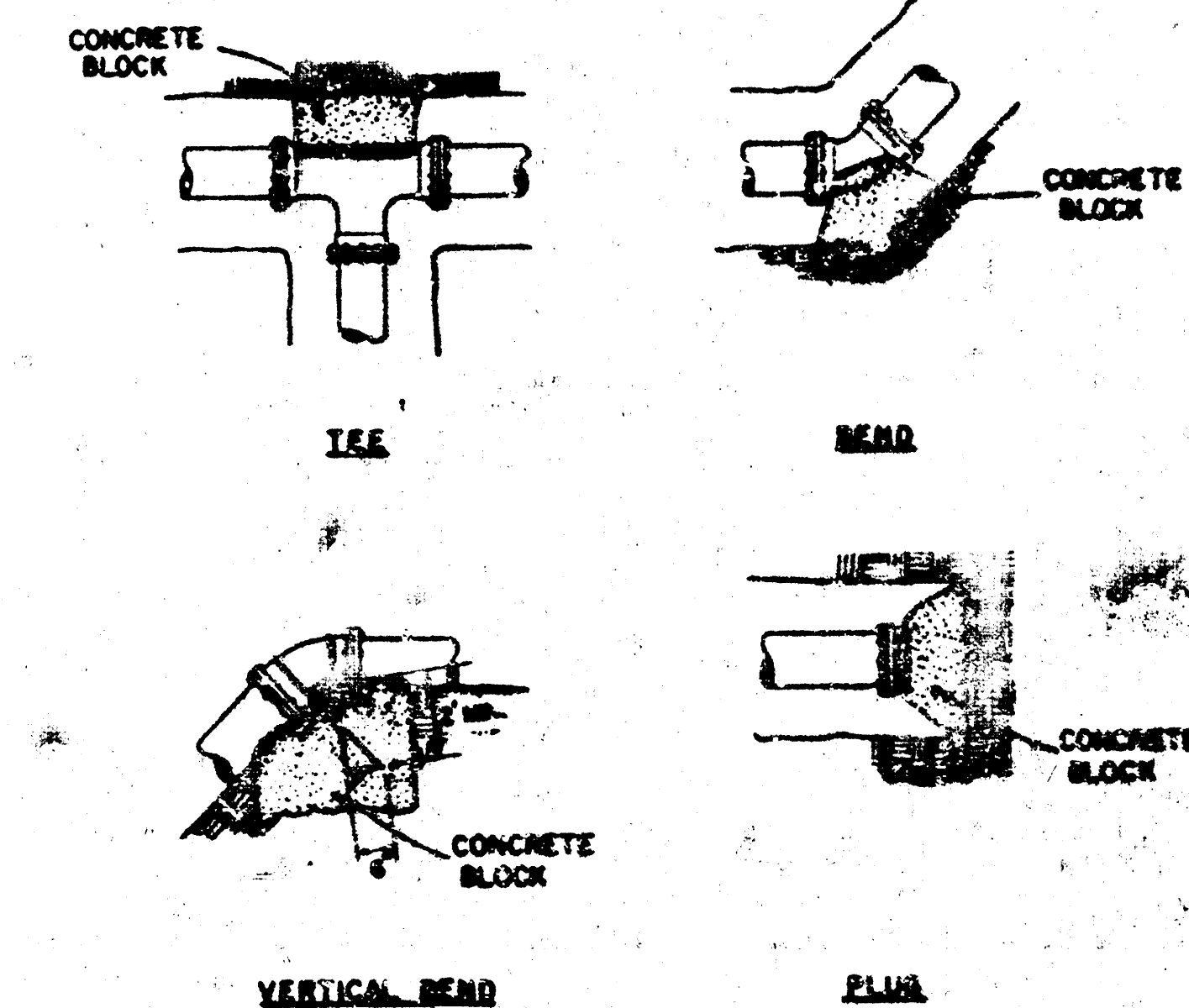


TRENCH DETAIL



TYPICAL SERVICE INSTALLATION

NOTE
TRENCH TO BE FILLED WITH FLUSHED AND VIBRATED SAND TO WITHIN 12" OF FINISHED GROUND ELEVATION OR TO PAVEMENT BASE UNDER PAVEMENT.



PIPE SIZE	THRUST AT FITTINGS IN TONS (AT 90° / 100 PSI)					
	PLUG	90°	45°	22 1/2°	11 1/4°	TEE
6"	2.8	3.95	2.15	1.09	.55	2.8
8"	4.9	6.95	3.75	1.90	.96	4.9
12"	11.4	16.1	8.75	4.45	2.25	11.4
16"	20.15	28.5	15.4	7.85	3.90	20.15
20"	31.15	44.0	23.85	12.15	6.1	31.15
24"	44.95	65.0	34.1	17.4	8.75	44.95

THRUST BLOCKS

DESS & GOODNESS ENGINEERS
2160 WEST 31ST STREET
MICHIGAN, KANSAS CITY, MO 64111
(913) 885-0025

DESIGNED BY: _____ CHECKED BY: _____ DRAWN BY: _____ PROJECT: _____

WATER SYSTEM IMPROVEMENTS

SCALE: _____ DATE: _____

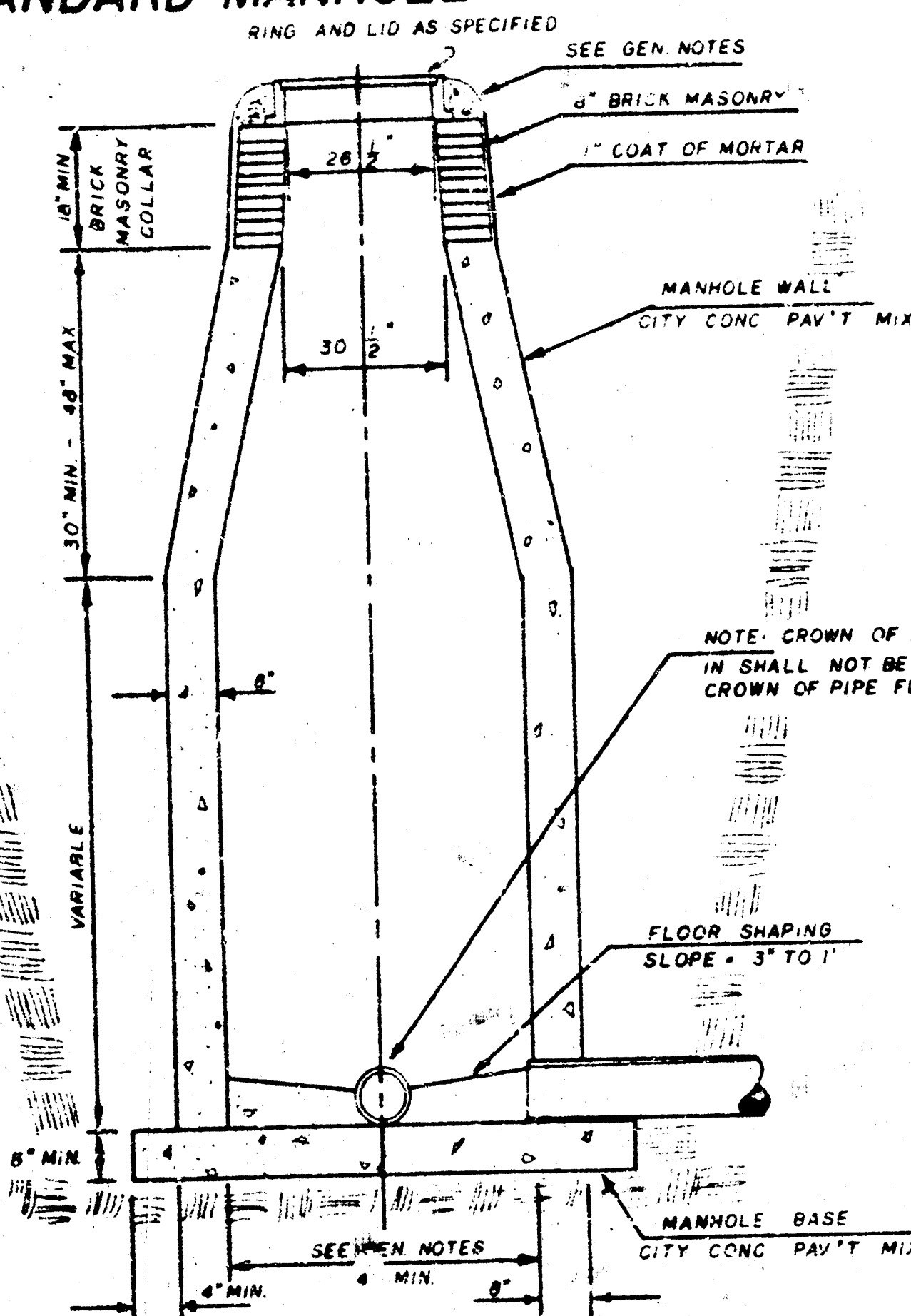
FILMED FROM THE BEST AVAILABLE COPY

SEWER APPURTENANCES DETAILS

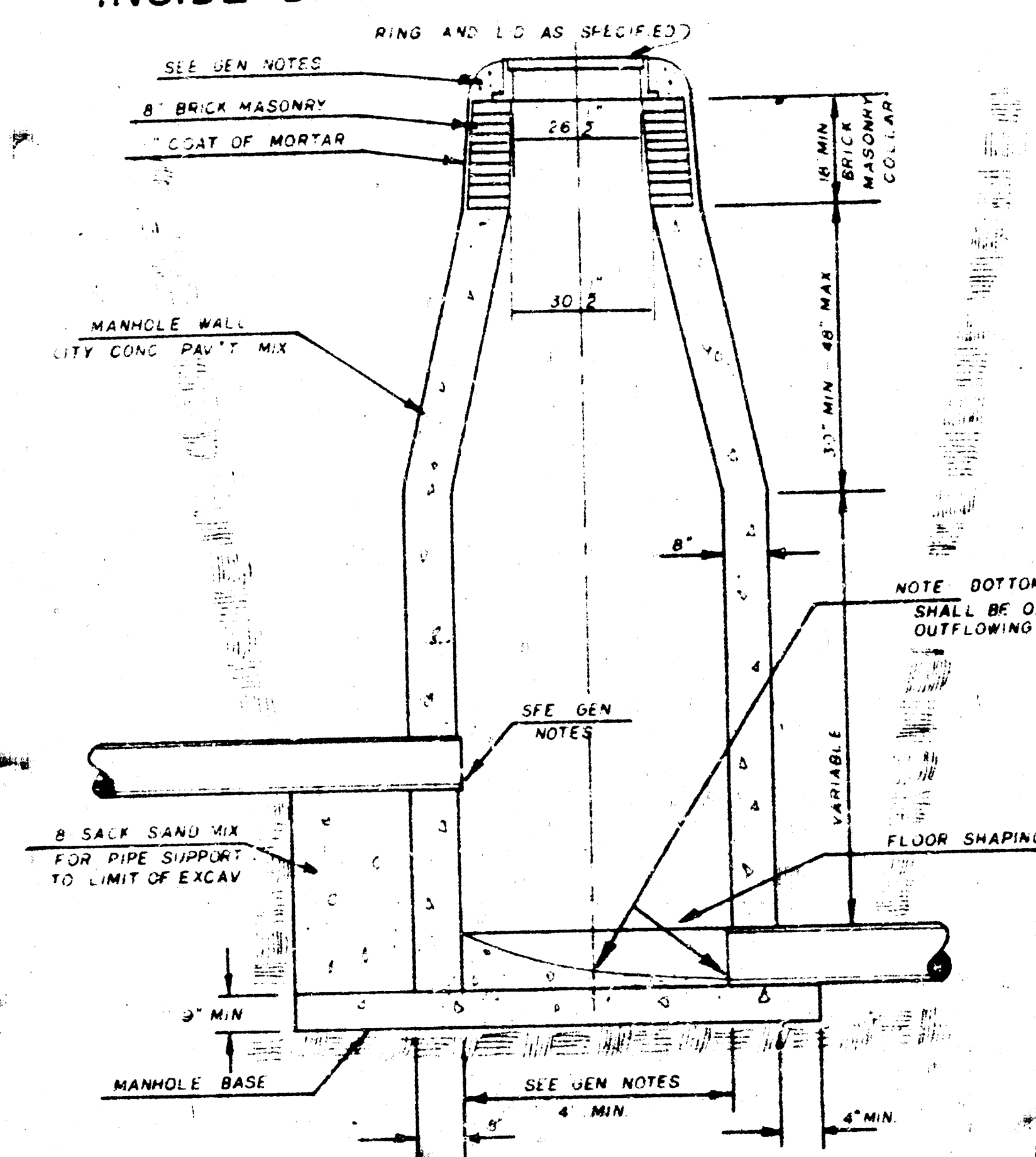
ADOPTED AS STANDARD DESIGN
BY

City of Wichita, Kansas

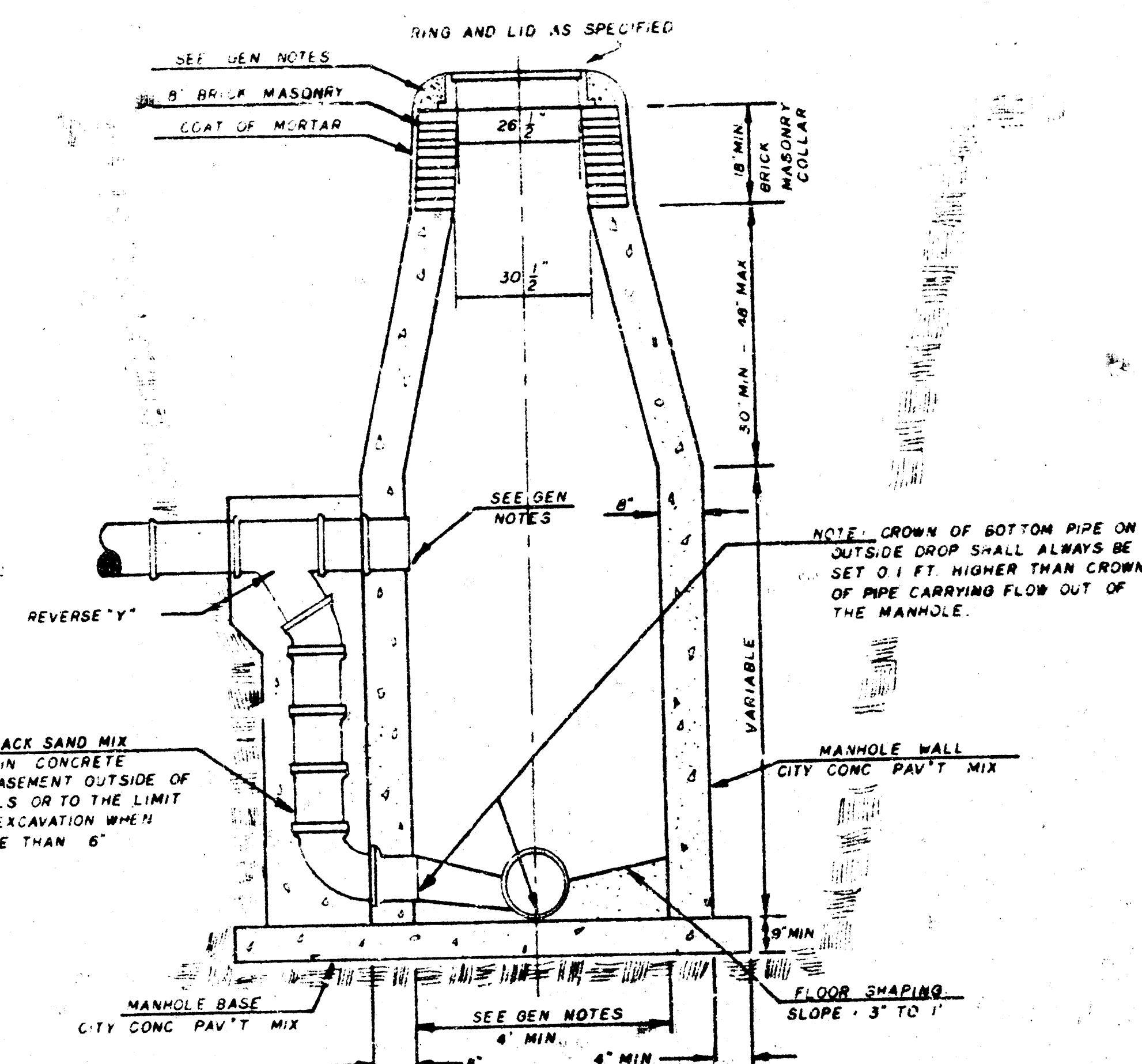
STANDARD MANHOLE TYPE "C"



INSIDE DROP MANHOLE TYPE "C"



OUTSIDE DROP MANHOLE TYPE "C"



GENERAL NOTES

1. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 3 BAGS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE WALLS AND BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR PIPE RINGS AND JOINTS AS SPECIFIED IN THE CITY STANDARD SPECIFICATIONS. MORTAR SHALL BE PLACED AROUND THE MANHOLE RINGS AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. TYPE "C" MANHOLES SHALL BE CONSTRUCTED ONLY WHERE PIPE SIZES ARE 8" OR SMALLER. THE INSIDE DIAMETER OF TYPE "C" MANHOLES SHALL BE 30". UNPAVED MANHOLES SHALL BE WEATHER-RESISTANT AND WATER TIGHT.
2. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASE. REINFORCING STEEL SHALL CONSIST OF NO. 4 BARS PLACED ON 5" CENTERS IN BOTH DIRECTIONS. REINFORCING STEEL SHALL BE PLACED ABOVE THE BOTTOM OF THE MANHOLE BASE. JOINTS OF REINFORCING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
3. AN OPENING SHALL BE CUT IN THE MANHOLE WALL FOR THE UPPER INLET PIPE FOR INSIDE AND OUTSIDE DROP MANHOLES. THE UPPER INLET PIPE SHALL BE JOINTED INTO THIS OPENING WITH NON-SOLING JOINT. THE EXTENSION OF THIS COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED WATERPROOFING JOINT SUCH THAT THE CONNECTION WILL BE WATER TIGHT.
4. THE FLOORS OF ALL MANHOLES SHALL BE SLOPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF-DETERMINING AND FREE OF AREAS WHERE DEPOSITS COULD BE DEPOSITED AS STAGNE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE SLOPE OF THE INLET AND OUTLET PIPES AND THE CONNECTIONS THERE TO. THE SLOPE OF THE FLOORS SHALL BE 3" TO 1". EXCEPT FOR INSIDE DROP MANHOLES, FLOW CHANNELS FOR INSIDE DROP MANHOLES SHALL BE CONSTRUCTED IN THE FLOORS OF THE MANHOLES. 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 ROUNDED TO MATCH SLOPE FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SLOPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNELS.
5. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE GRADED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE GRADE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE. THE GRADE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. JOINTS OF GRADE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
6. 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 DRAWINGS.
7. THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 3' FOR INFLOWING PIPES SIZED 12" OR SMALLER AND 2' FOR INFLOWING PIPES LARGER THAN 12". THE CROWN OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
8. STANDARD MANHOLES TYPE "C" AND STANDARD INSIDE DROP MANHOLES TYPE "C" SHALL BE OLD AS STANDARD MANHOLES FOR THE TYPE AND SIZE WITH INDICATED OUTSIDE DROP MANHOLES TYPE "C" SHALL BE OLD AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND SIZE WITH INDICATED. ALL MANHOLE DIMENSIONS WILL BE AS SHOWN ON THE STANDARD SPECIFICATIONS.

MANHOLE FRAME AND COVER DETAIL

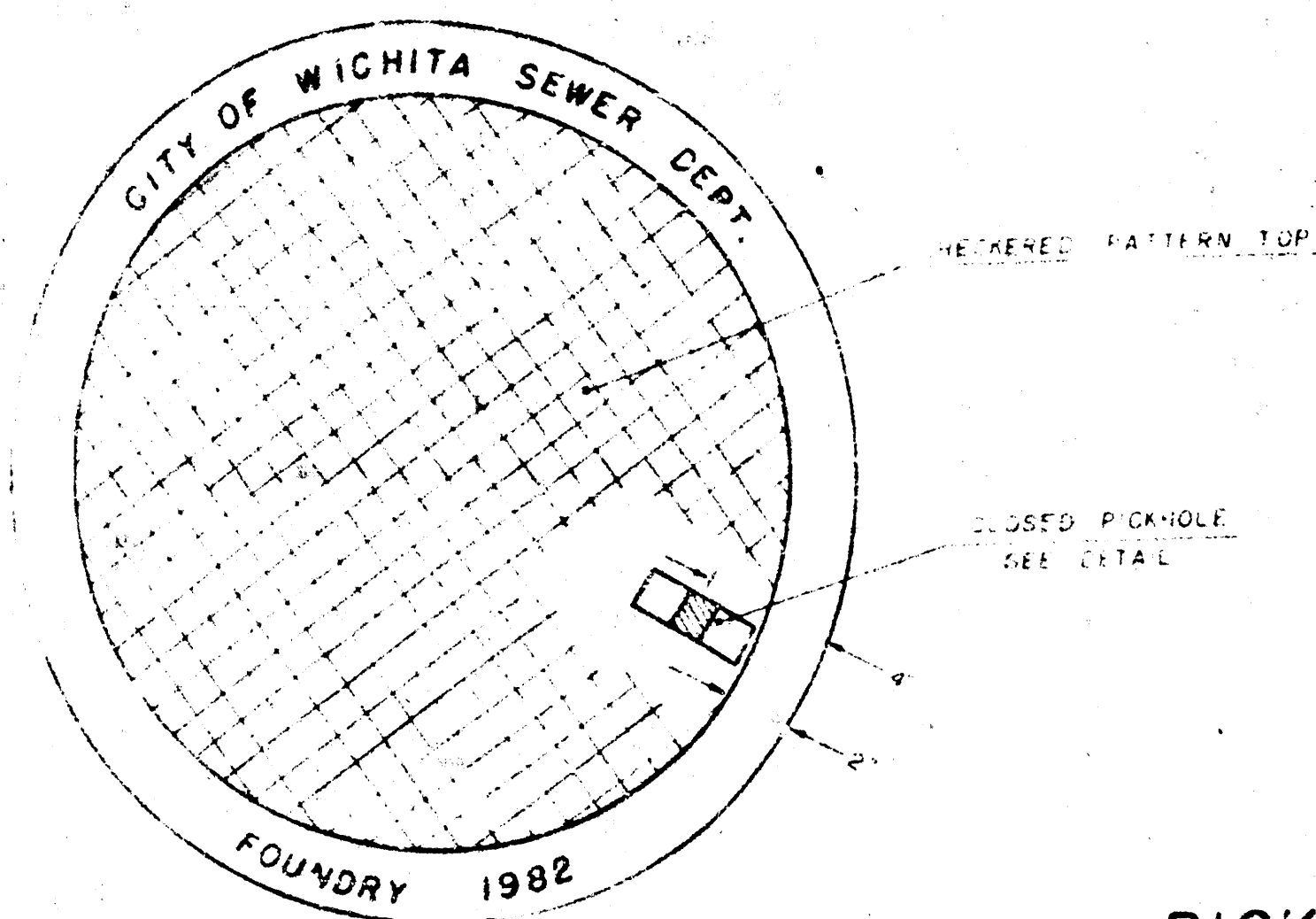
ADOPTED AS STANDARD DESIGN

BY

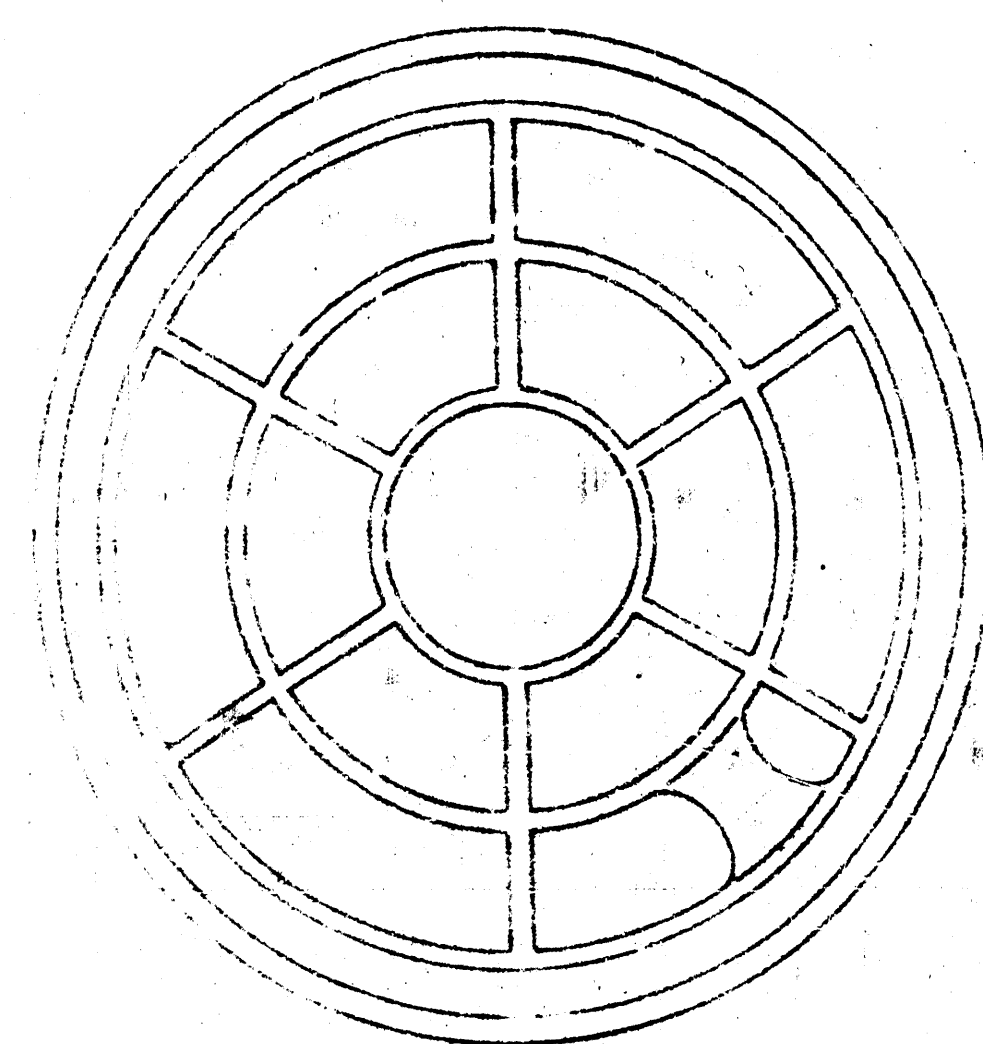
City of Wichita, Kansas

MANHOLE COVER

Weight: 180 Lbs.

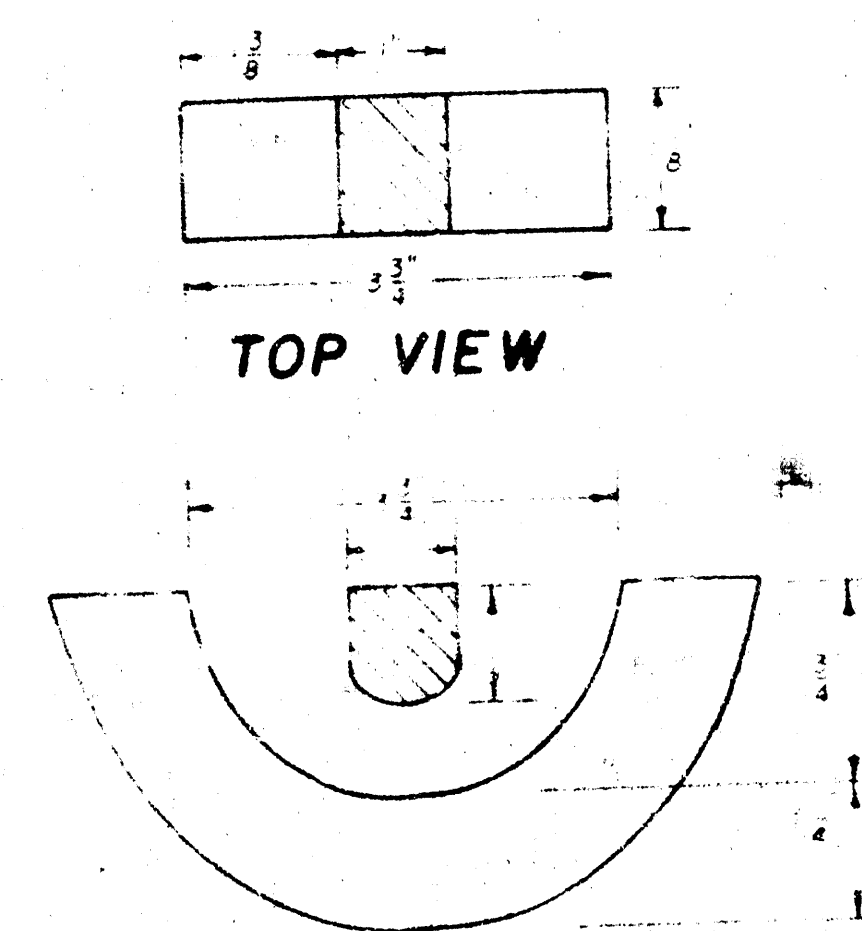


TOP VIEW



BOTTOM VIEW

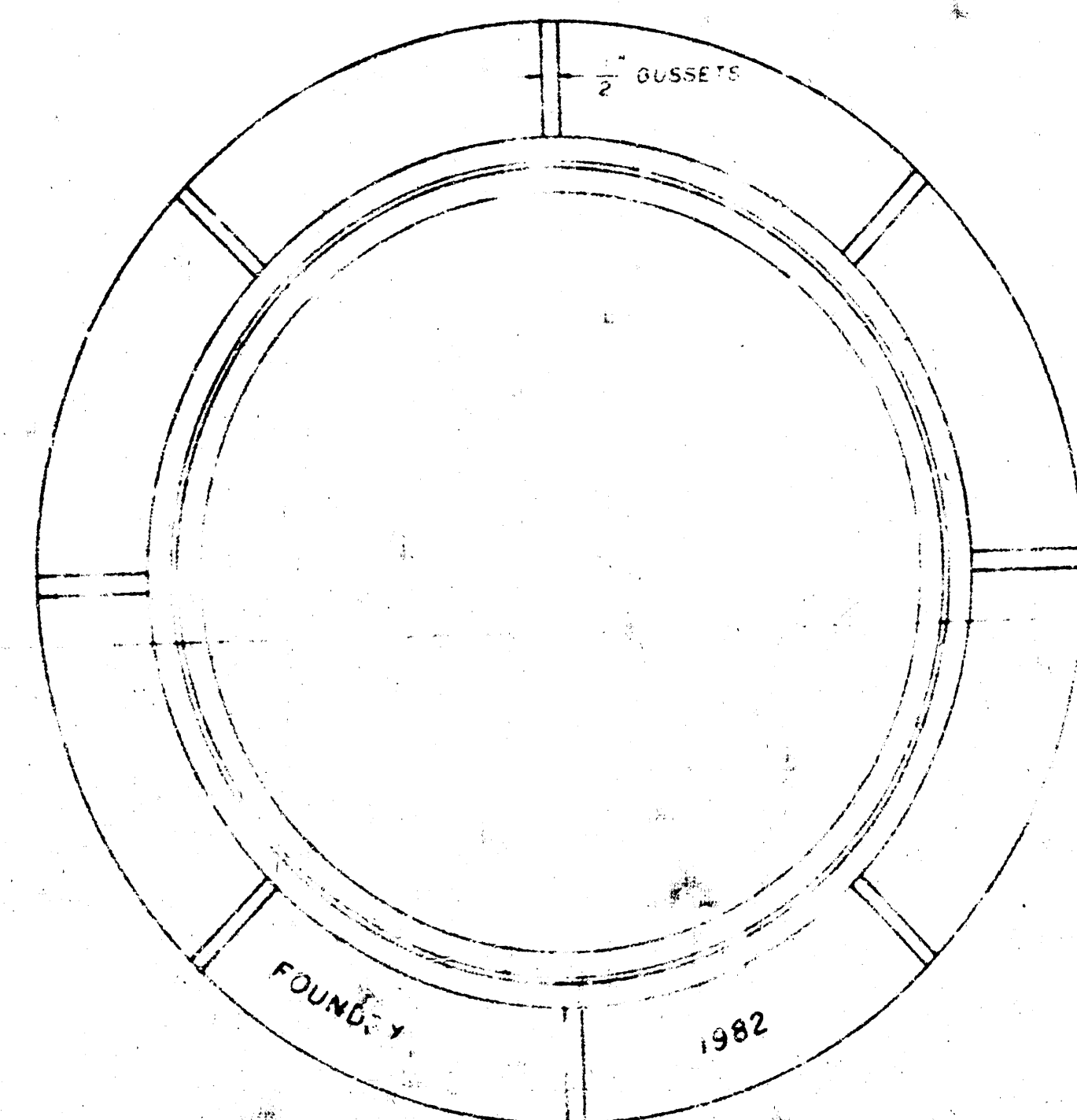
PICKHOLE DETAIL



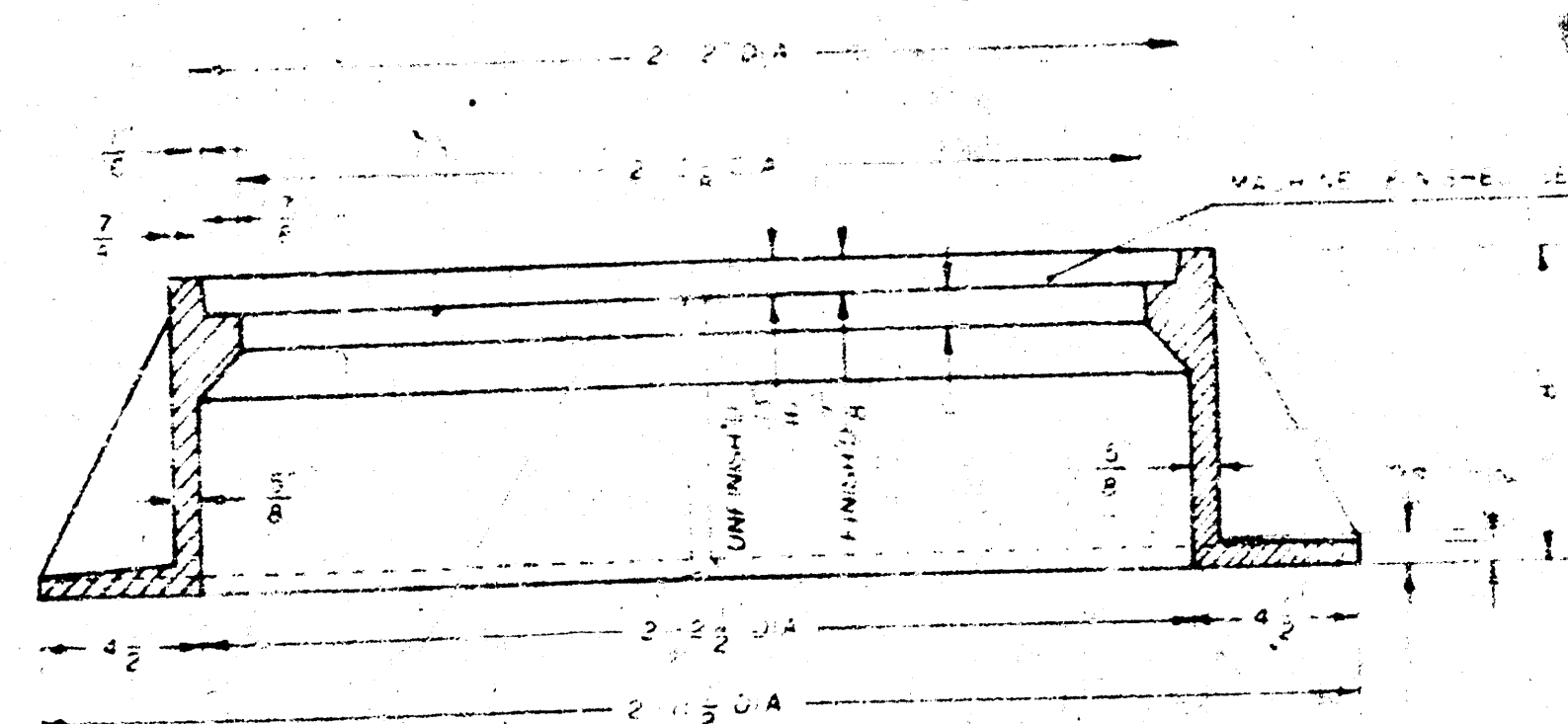
SECTION VIEW

MANHOLE FRAME

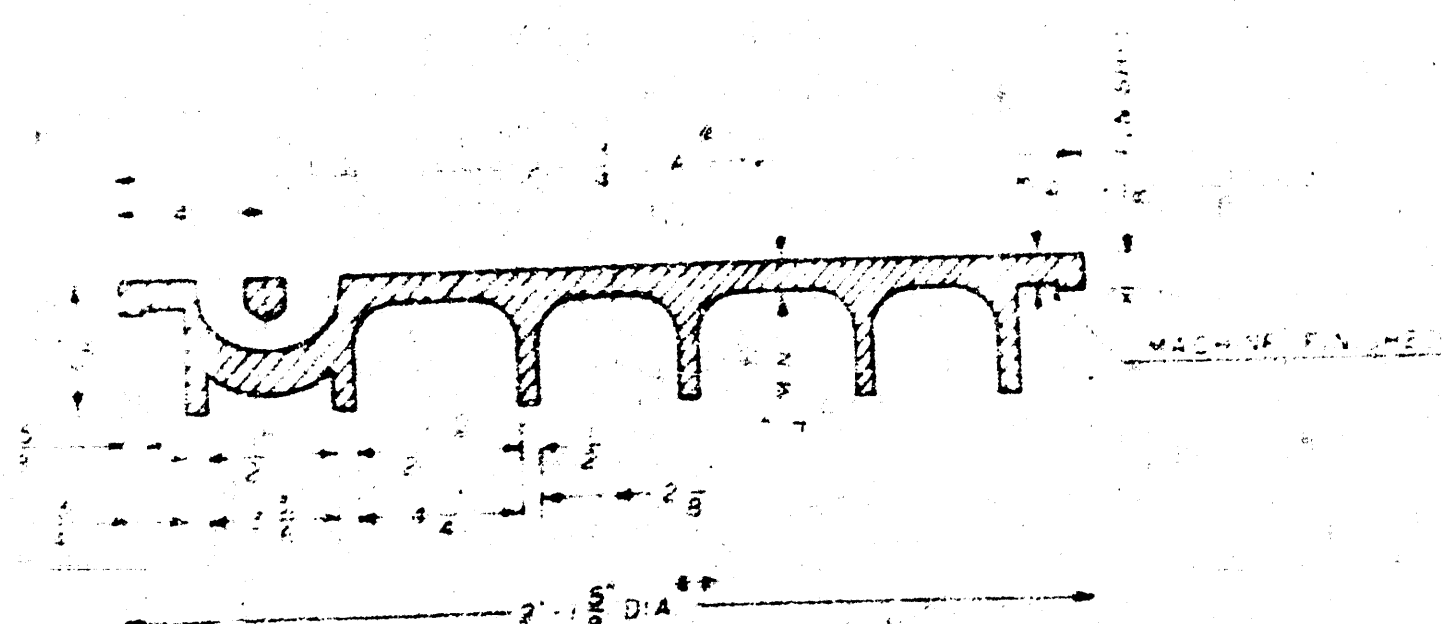
Weight: 240 Lbs.



TOP VIEW



SECTION A-A



SECTION VIEW

* OUTSIDE DIA. TOP OF COVER
** OUTSIDE DIA. BOTTOM OF COVER

GENERAL NOTES

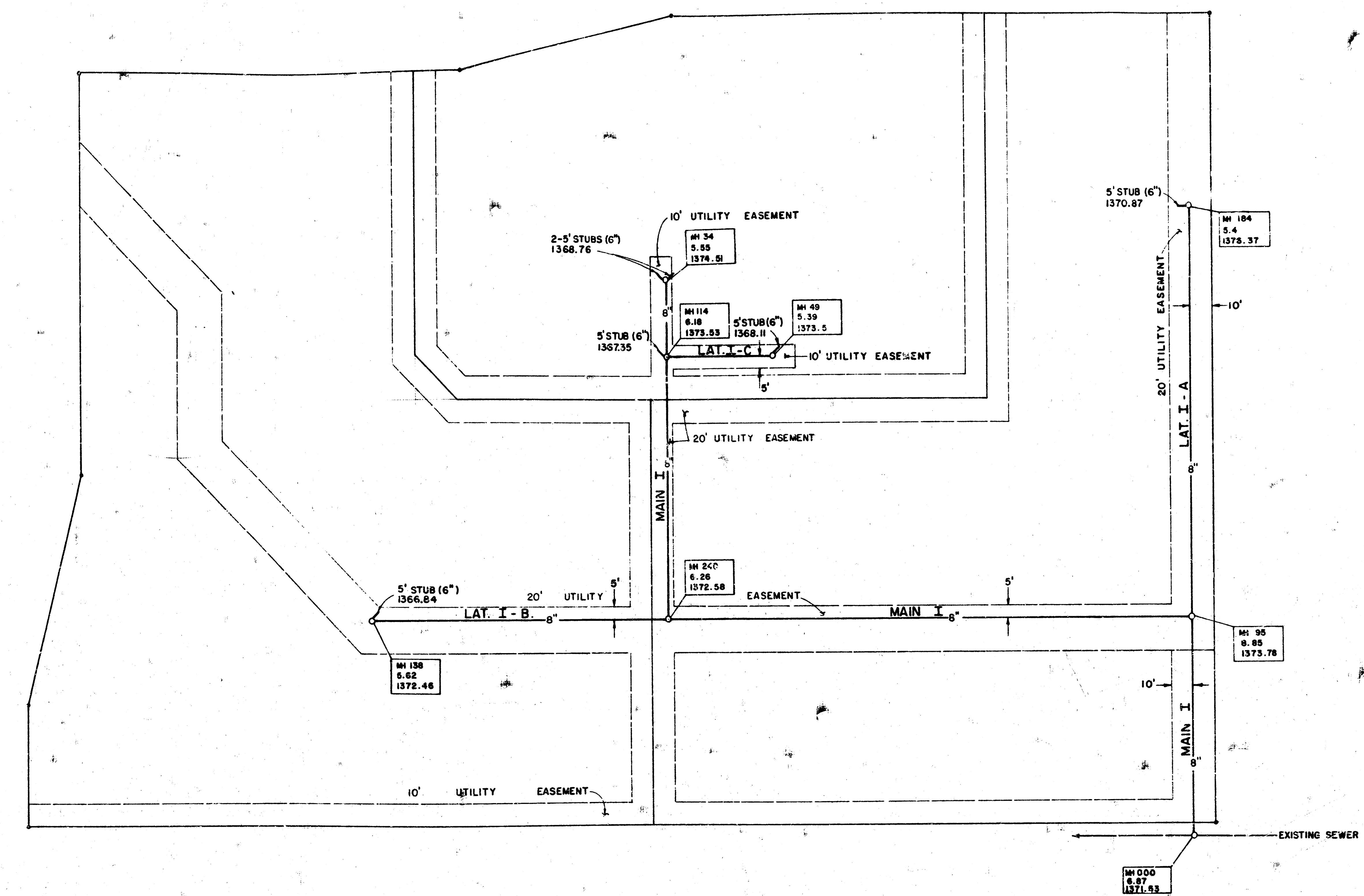
1. MANHOLE CASTINGS SHALL BE MANUFACTURED USING GRADE 48,000 PSI STEEL. DIMENSIONS AND WEIGHTS SHALL BE AS SHOWN. DIMENSIONS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS. DIMENSIONS SHALL BE THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPLIED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOTTES, POROSITY, LACES, CRACKS, AND OTHER DEFECTS.
2. MANHOLE CASTINGS SHALL BE COATED WITH AN ASPHALT PAINT RESISTING IN A WEAR SURFACE AND TENSILES LAMING WHICH IS NOT BRITTLE OR TACKY.
3. MANHOLE CASTINGS SHALL BE MANUFACTURED SUCH THAT A COVER MANUFACTURED BY ONE FOUNDRY WILL FIT INTERCHANGEABLY INTO A FRAME MANUFACTURED BY ANOTHER FOUNDRY AND STILL MEET ALL CLEARANCES AND NON-SEIZING REQUIREMENTS. THIS WILL REQUIRE MATCHING OF THE MATCHING FACES ON THE COVER AND THE FRAME TO CLOSE TOLERANCES.
4. THE INTERFERENCE OF THE VERTICAL FACE OF THE COVER AND THE INNER CIRCUMFERENCE OF THE VERTICAL FACE IN THE FRAME SHALL BE AS SHOWN. THE CLEARANCES SHALL BE AS SHOWN. THE CLEARANCE BETWEEN THE COVER AND FRAME SHALL BE AS SHOWN. THE INTERFERENCE OF THE COVER AND FRAME SHALL BE AS SHOWN. THE INTERFERENCE OF THE COVER AND FRAME SHALL BE AS SHOWN.
5. THE MANHOLE FRAME AND COVER SHALL BE MARKED WITH LETTERS IDENTIFYING THE NAME OF THE FOUNDRY AND THE YEAR WHEN THE COVER OR FRAME WAS CAST. THE LETTERS SHALL BE AT LEAST 1/2 IN. HIGH. THIS IDENTIFICATION SHALL BE "CITY OF WICHITA SEWER DEPARTMENT". THE WORD "MANUFACTURED" MAY BE IDENTIFIED. THE TEXTURE OF THE TOP SURFACE OF THE COVER SHALL BE MANUFACTURED IN A RECESSED PATTERN DESIGN AS INDICATED ON THE DRAWING. THE TOTAL AREA OF RECESSED PATTERN SHALL NOT EXCEED THE AREA AS INDICATED ON THE DRAWING. IDENTIFYING LETTERS SHALL NOT EXCEED THE AREA AS INDICATED ON THE DRAWING. IDENTIFYING LETTERS SHALL NOT EXCEED THE AREA AS INDICATED ON THE DRAWING.

10 1 4 14

S.W. COR. SEC. 23
T26S, R1E

OLIVER STREET

37 TH ST. NORTH



LEGEND

MH 123
3.45
1456.78

DISTANCE TO DOWNSTREAM MANHOLE
MEASUREMENT (RING TO FL. OUT)
TOP OF MANHOLE RING (U.S.G.S. DATUM)

MANHOLE LINE
SEWER LINE

SCALE: 1" = 30'

REISS & GOODNESS ENGINEERS
2100 WEST 21ST STREET
WICHITA, KANSAS 67203
(316) 632-0213

REVISION	DRAWN BY	CHECKED BY	DESIGNED BY	PROJECT	CUSTOMER
				"AS BUILT" SEWER SYSTEM - CHAN'S ACRES	BEL AIRE, KANSAS

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AVAILABLE COPY.....