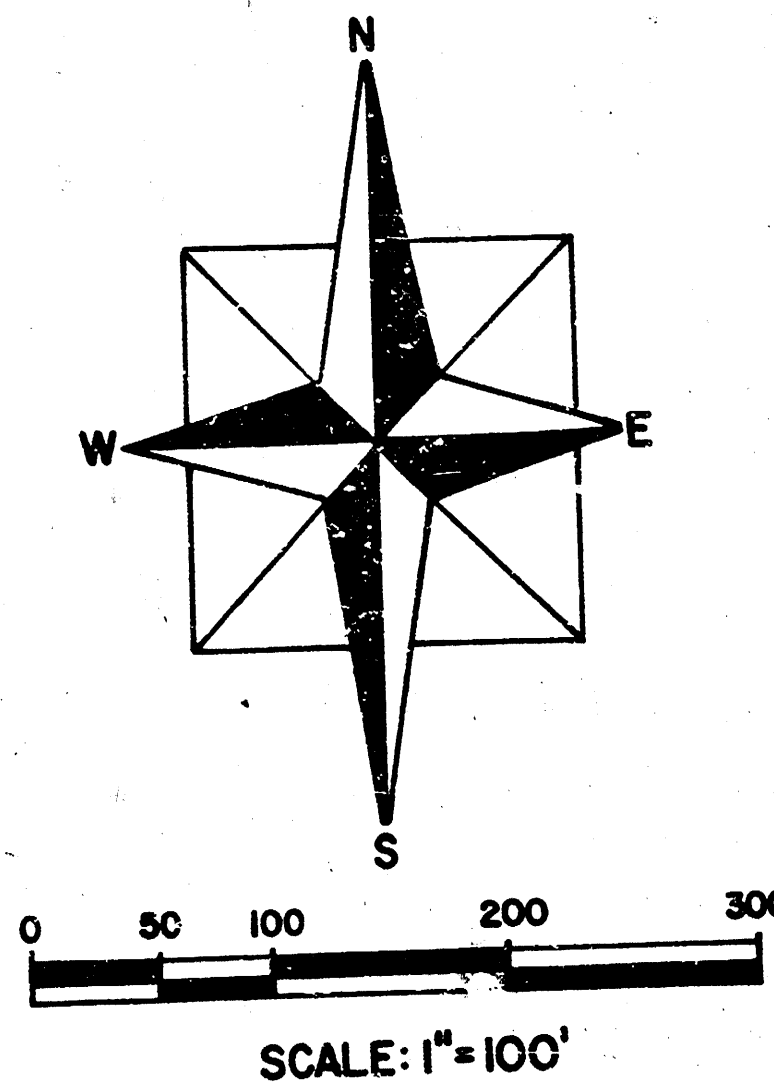


SILVER SPRINGS

LOT 2, BLOCK 1, SILVER SPRINGS
AN ADDITION TO THE CITY OF WICHITA, KANSAS
PAVING, GRADING AND STORM SEWER PLAN



OWNER :
FLOYD R. HARDESTY
4606 SOUTH GARNETT
TULSA, OKLAHOMA
74145
PHONE: 622-3600

GENERAL NOTES

ALL CONSTRUCTION TO BE IN STRICT ACCORDANCE
WITH CITY OF WICHITA SPECIFICATION

EXISTING UNDERGROUND LINES HAVE BEEN SHOWN TO THE EXTENT
KNOWN AND LOCATIONS ARE APPROXIMATE. THE EXACT LOCATIONS
AND NOTIFICATION OF THE PROPER AGENCY IS THE RESPONSIBILITY
OF THE CONTRACTOR PRIOR TO ANY EXCAVATION.

LEGEND

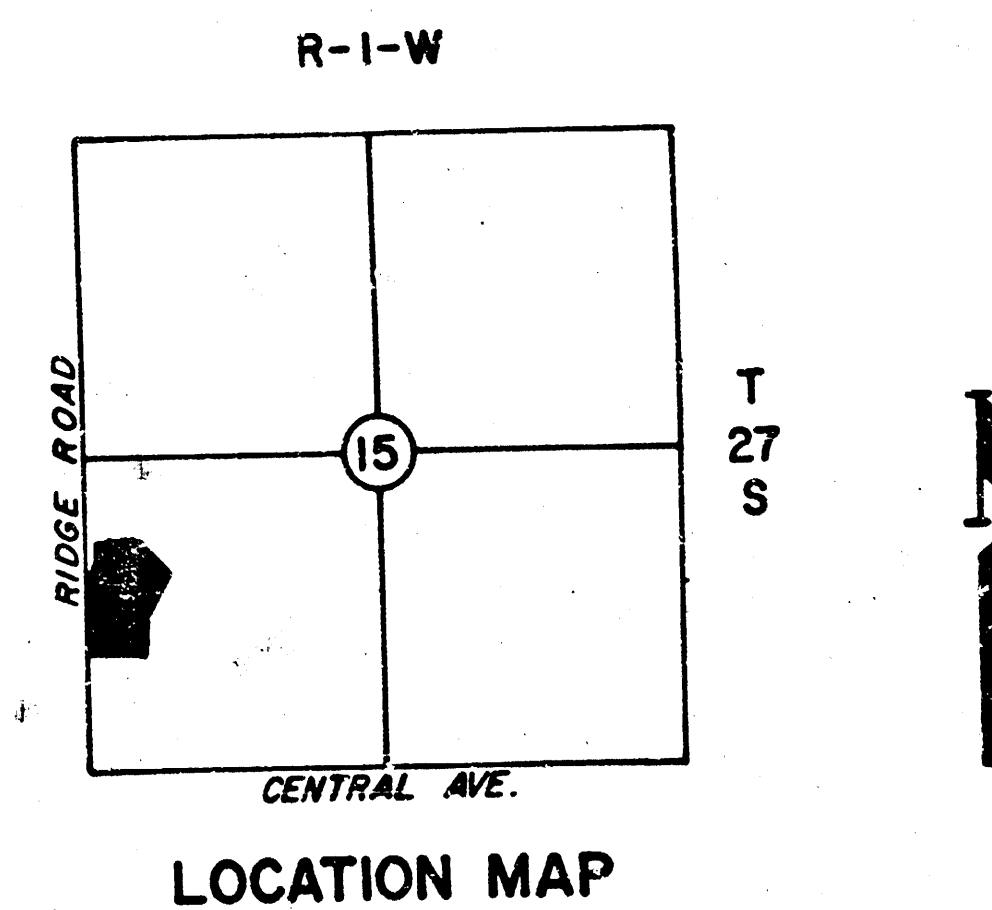
	PROPOSED STORM SEWER
	PROPOSED MANHOLE
	PROPOSED INLET
	DRAINAGE AREA LIMITS
	SANITARY SEWER EASEMENT
	STORM SEWER EASEMENT
	UTILITY EASEMENT
	DRAINAGE EASEMENT
	EXISTING GROUND CONTOUR
	PROPOSED FINISHED CONTOUR

SOUTHWEST CORNER
OF SW/4 OF SECTION
15, T-27-S, R-1-W.

BENCHMARK: APPROXIMATELY 755.12 FEET EAST
AND 1500.36 FEET NORTH OF THE SOUTHWEST
CORNER OF THE SW/4 OF SECTION 15, T-27-S
R-1-W.

ALC. YOUNG & ASSOCIATES
OF TULSA, INC.

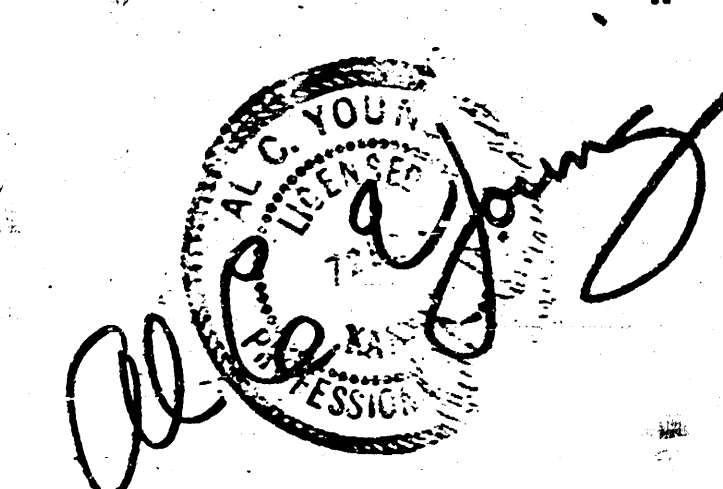
CONSULTING ENGINEERING • PLANNING • ENVIRONMENTAL ANALYSIS



3-23-84
APPROVED AS NOTED
By CITY ENGINEER OF WICHITA
Sanitary Sewers
Storm Sewers
Drainage Approaches

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GRADING, DRAINAGE AND STORM
3	SEWER PLAN
4	PAVING PLAN
5-6	PAVING PROFILE
7-10	STORM SEWER PROFILES
11	STANDARD DETAILS
12	DECEL LANE; ENTRY DETAIL SHEET

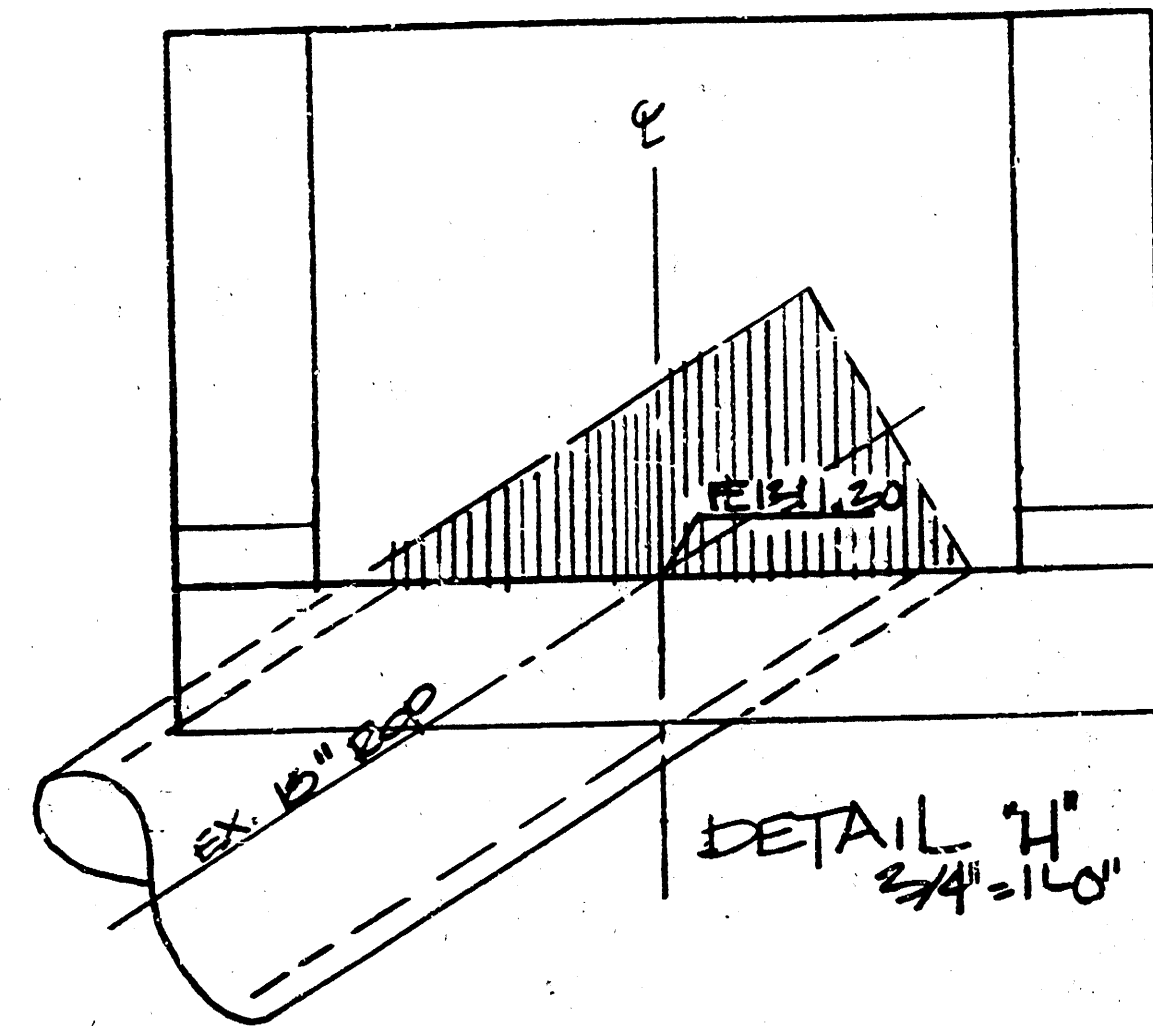


CITY OF WICHITA, KANSAS	
ALC. YOUNG & ASSOCIATES	
808 S. PEORIA • TULSA, OKLA. 74120 • 918/582-9181	
PLAN SCALE 1"=100'	DRAWN DESIGNED SILVER SPRINGS TITLE SHEET
PROFILE SCALE HORIZONTAL 1"=100'	RECOMMENDED ENGINEERING DIVISION
VERTICAL 1"=100'	DATE: 3/23/84
FILE: 4337	DRAWING: 1
ATLAS PAGE NO.	SHEET 1 OF 11 SHEETS

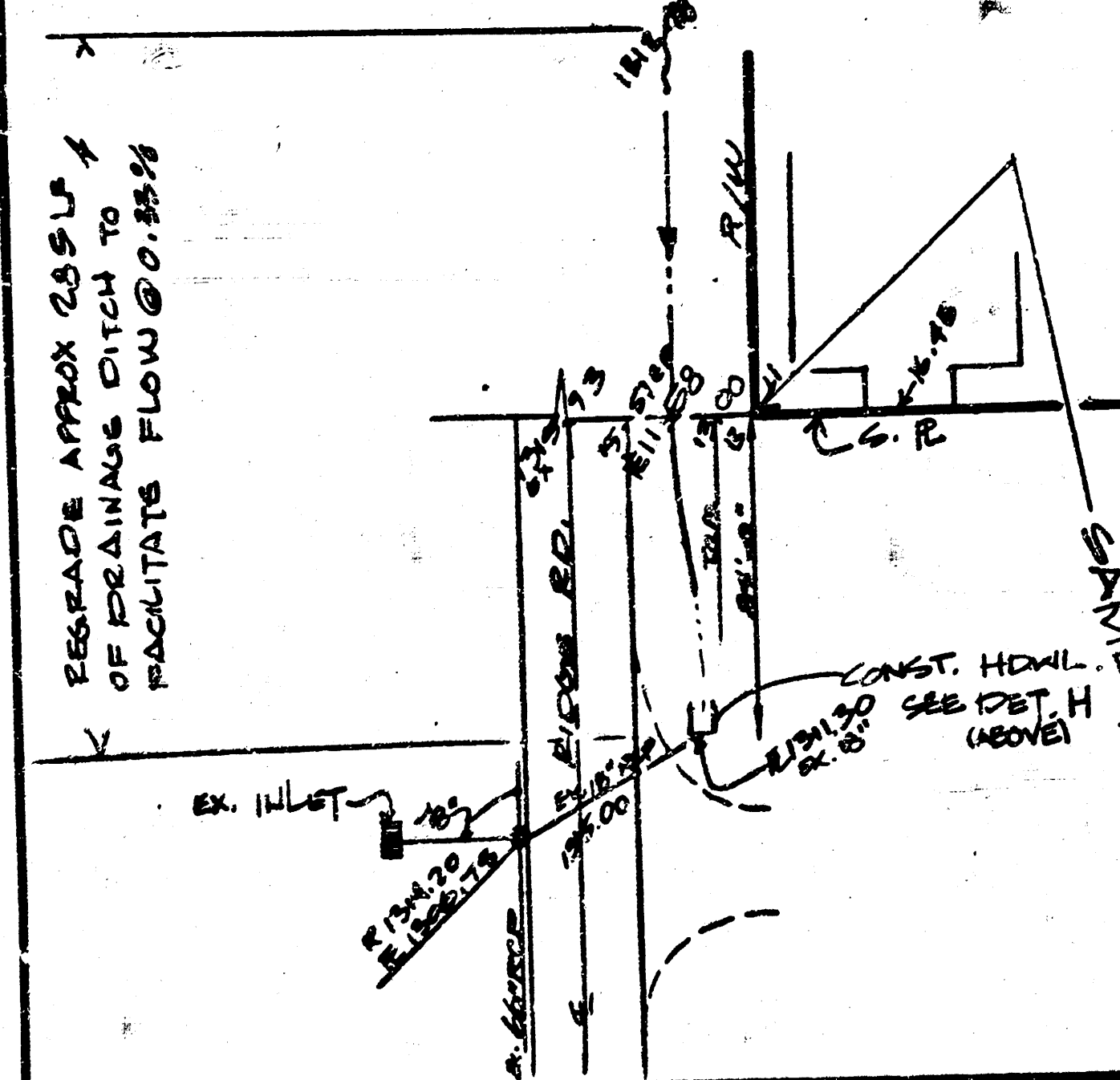
NOTE 3

BOXED ELEVATIONS ARE
FINISH GRADES AT WEST
PROPERTY LINE, LOCATED
BY DIMENSION

CONST. HEADWALL W/1" TYPE
WINGS AT EXIST. 18" RCP. CUT AND
REMOVE PORTION OF EXIST. PIPE
AS INDICATED FLUSH W/RCE
OF WALL. (SHADED AREA.)



DETAIL "H"
3/4" = 1'-0"

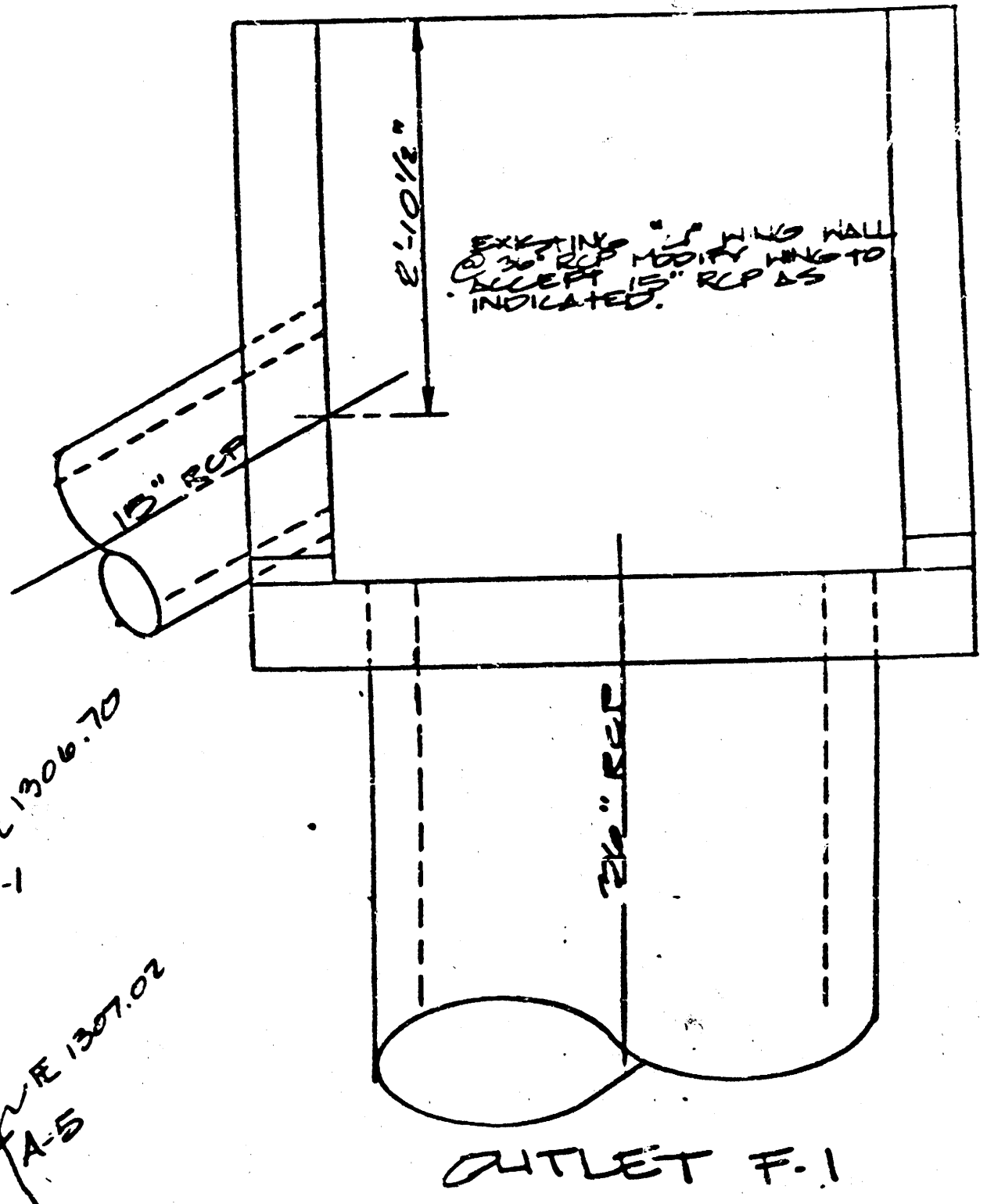
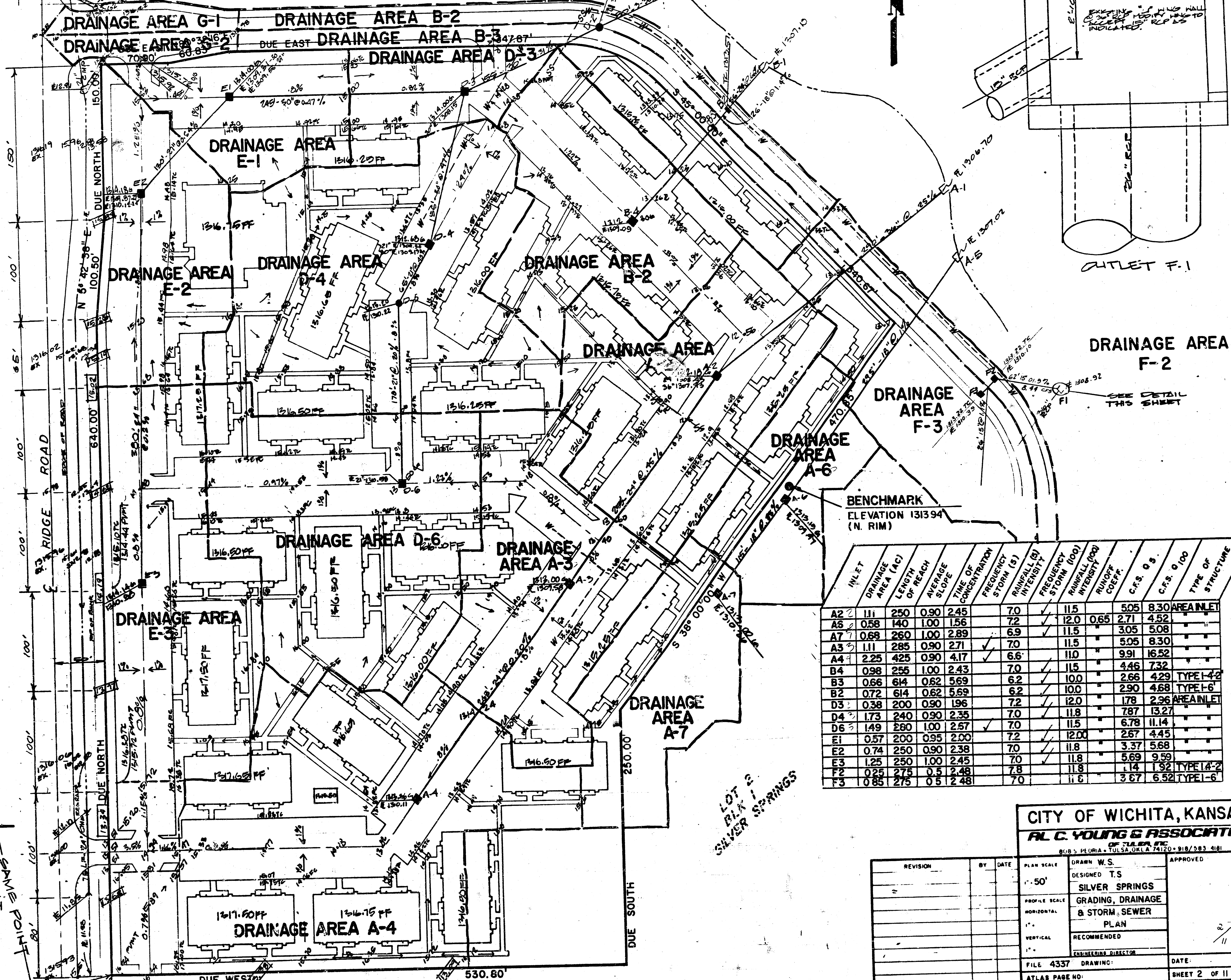


EGRADE APPROX 2.5% UP
OF EXISTING DITCH TO
INDICATE FLOW @ 0.5%
SLOPE

REACH
100 CFS
1.00 CFS

DRAINAGE AREAS G-1 & G-2
0.12 AC
0.9=C
12.0=100
Q=130 CFS

LOT 1
BLK 1
SILVER SPRINGS



OUTLET F-1

DRAINAGE AREA
F-2

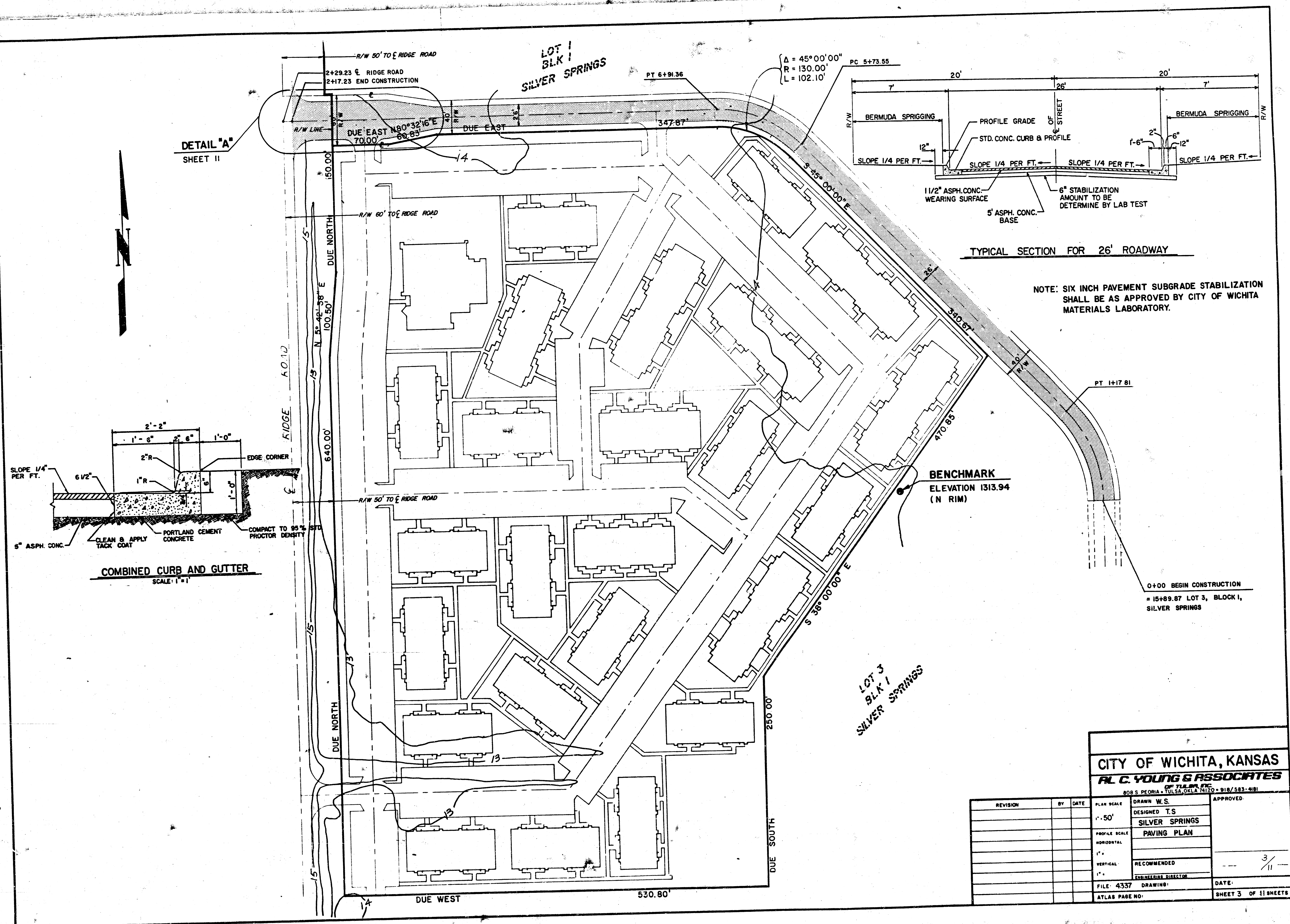
SEE DETAIL
THIS SHEET

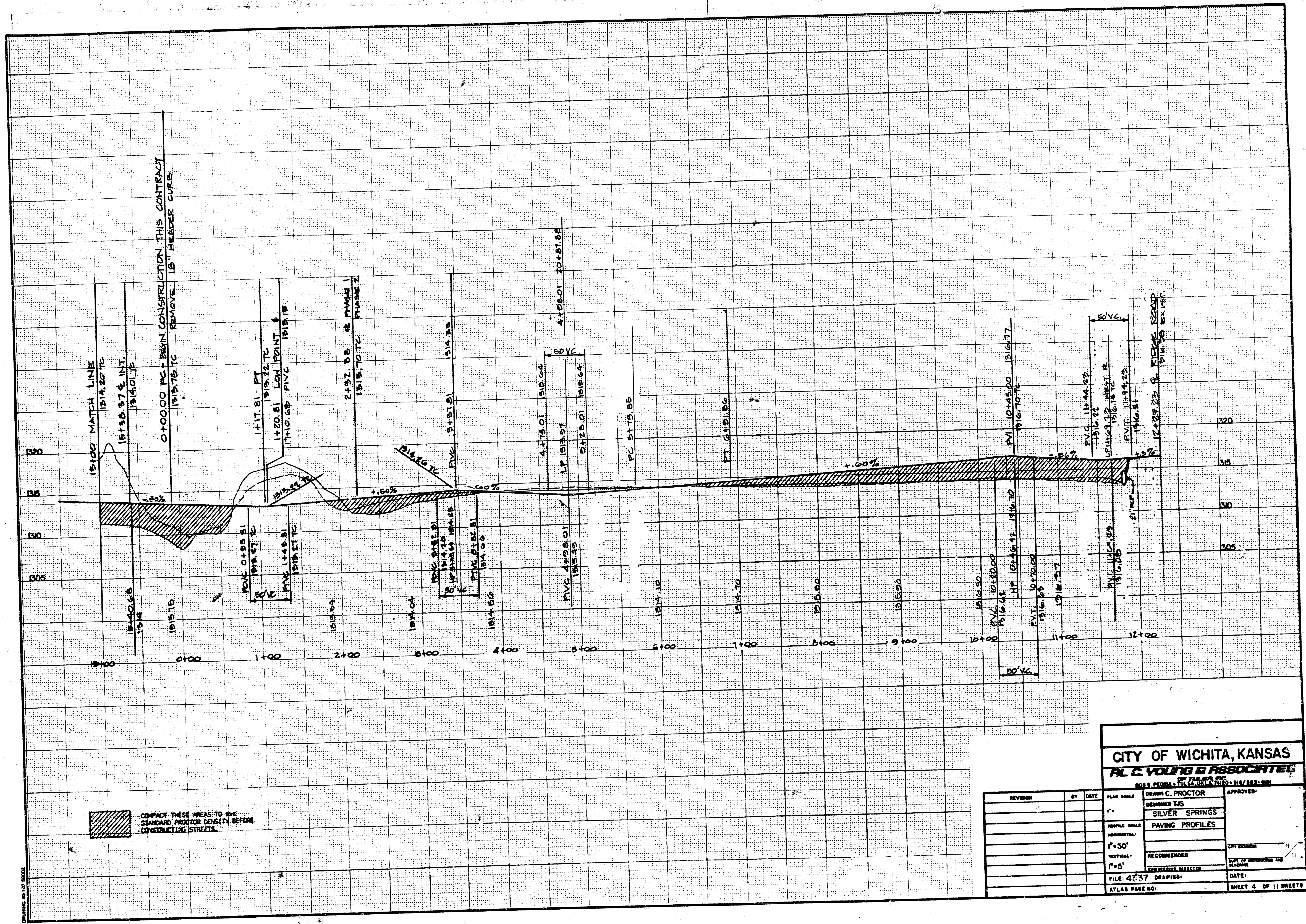
BENCHMARK
ELEVATION 1313.94
(N. RIM)

INLET	DRAINAGE AREA (AC)	LENGTH OF REACH	AVERAGE SLOPE	TIME OF CONCENTRATION	FREQUENCY STORM (S)	RAINFALL (IN)	FREQUENCY STORM (100)	RAINFALL (100)	INTENSITY	COEFF.	C.F.S. @ 5	C.F.S. @ 100	TYPE OF STRUCTURE
A2	1.11	250	0.90	2.45	70	11.5	11.5	505	8.30	AREA INLET			
A5	0.58	140	1.00	1.56	72	12.0	11.5	271	4.52				
A7	0.68	260	1.00	2.89	69	11.5	11.5	305	5.08				
A3	1.11	285	0.90	2.71	70	11.5	11.5	505	8.30				
A4	2.25	425	0.90	4.17	66	11.0	11.0	991	16.52				
B4	0.98	255	1.00	2.43	70	11.5	11.5	446	7.32				
B3	0.66	614	0.62	5.69	62	10.0	10.0	266	4.29	TYPE I-4			
B2	0.72	614	0.62	5.69	62	10.0	10.0	290	4.68	TYPE I-6			
D3	0.38	200	0.90	1.96	72	12.0	11.8	178	2.96	AREA INLET			
D4	1.73	240	0.90	2.35	70	11.5	11.5	787	13.27				
D6	1.49	280	1.00	2.57	70	11.5	11.5	678	11.14				
E1	0.57	200	0.95	2.00	72	12.0	12.0	267	4.45				
E2	0.74	250	0.90	2.38	70	11.8	11.8	337	5.68				
E3	1.25	250	1.00	2.45	70	11.8	11.8	569	9.59				
F2	0.25	275	0.5	2.48	78	11.8	11.8	114	1.92	TYPE I-4-2			
F3	0.85	275	0.5	2.48	70	11.6	11.6	367	6.52	TYPE I-6			

CITY OF WICHITA, KANSAS
R. C. YOUNG & ASSOCIATES
808 S. FLORIDA - TULSA, OKLA. 74106-918/283-4181

REVISION	BY	DATE	PLAN SCALE	DRAWN W.S.	APPROVED
			1" = 50'	DESIGNED T.S.	
			PROFILE SCALE	SILVER SPRINGS	
			HORIZONTAL	GRADING, DRAINAGE	
			VERTICAL	& STORM SEWER	
				PLAN	
				RECOMMENDED	
				ENGINEERING DIRECTOR	
			FILE 4337	DRAWING	DATE
			ATLAS PAGE NO.		SHEET 2 OF 11 SHEETS

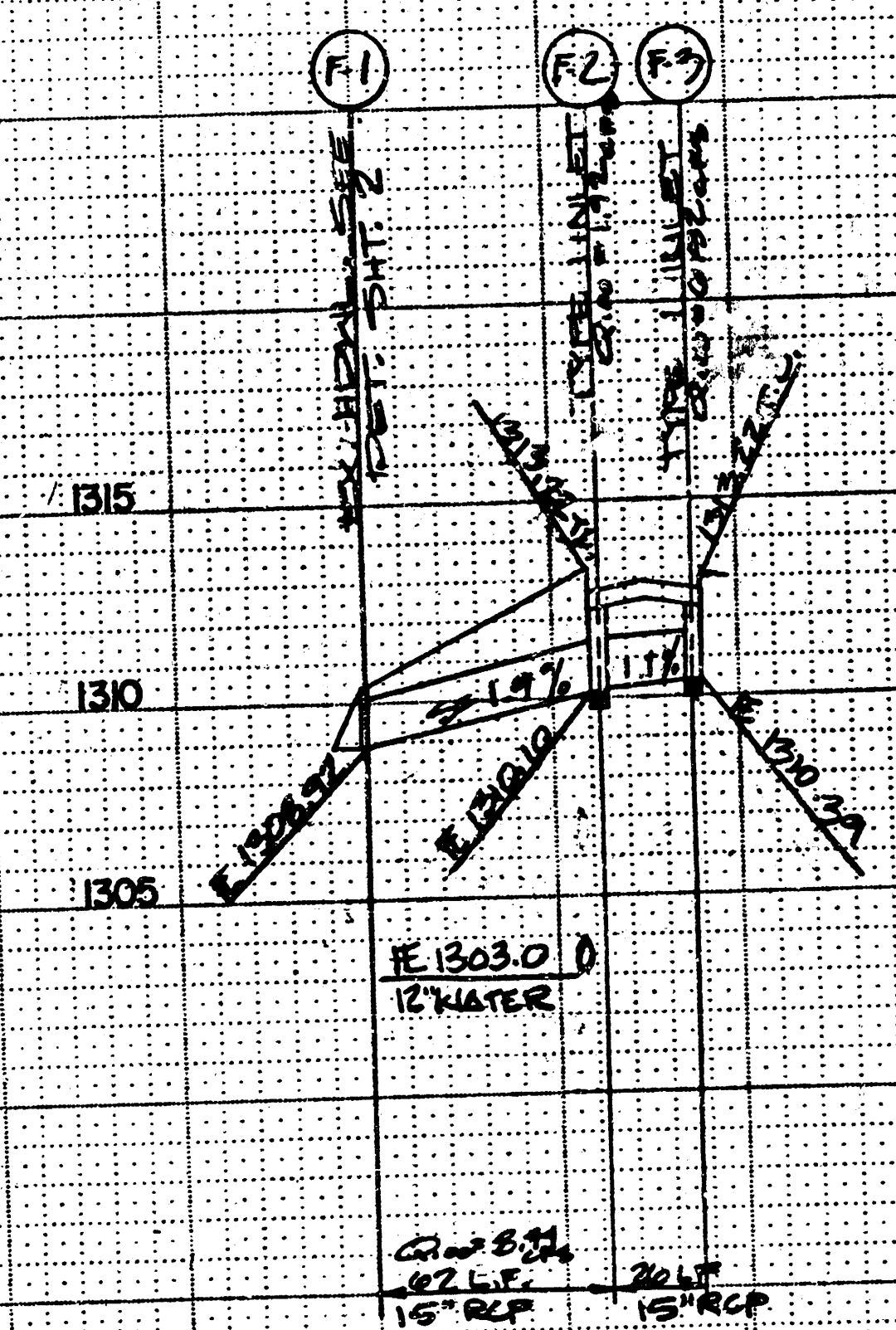
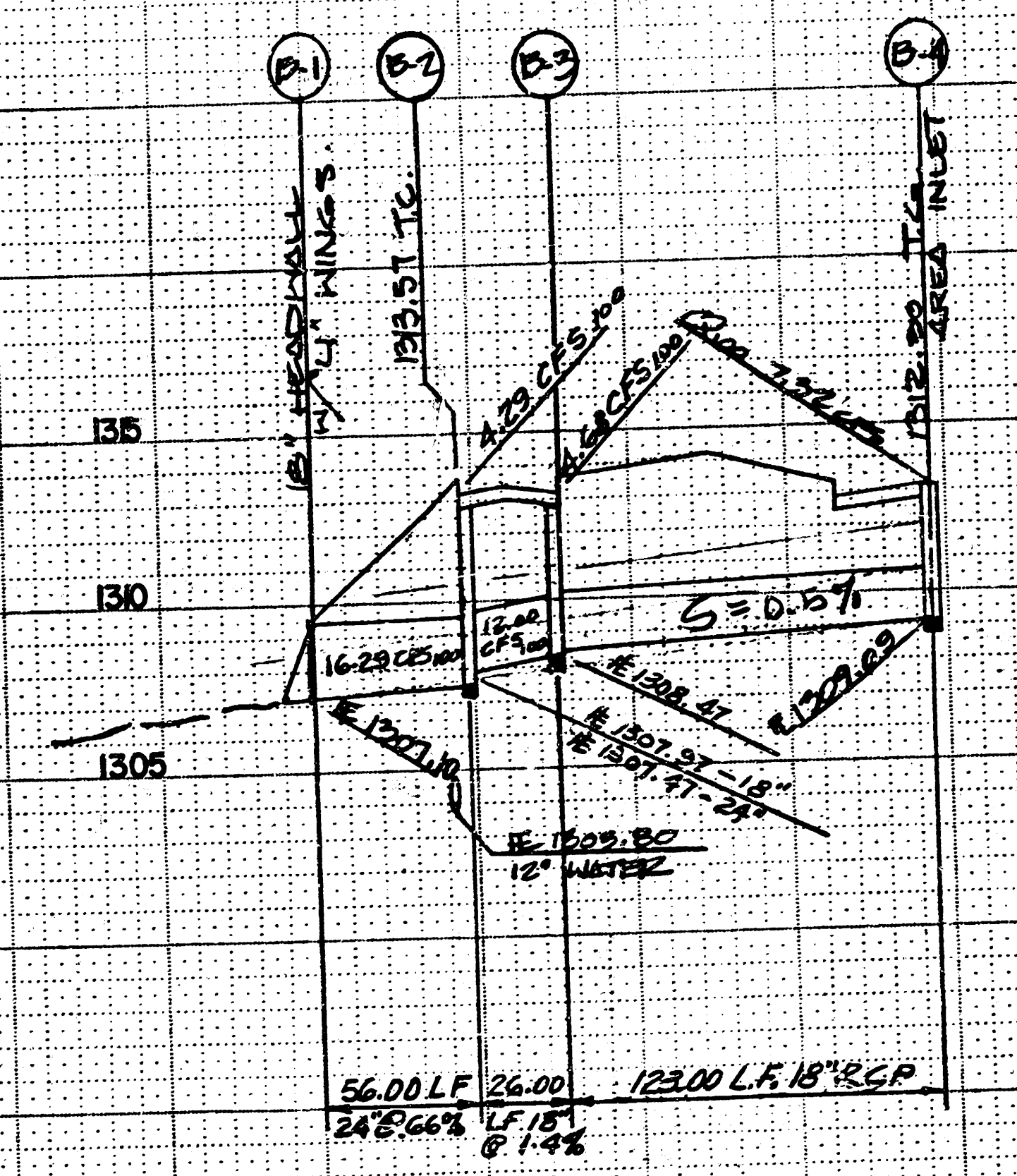
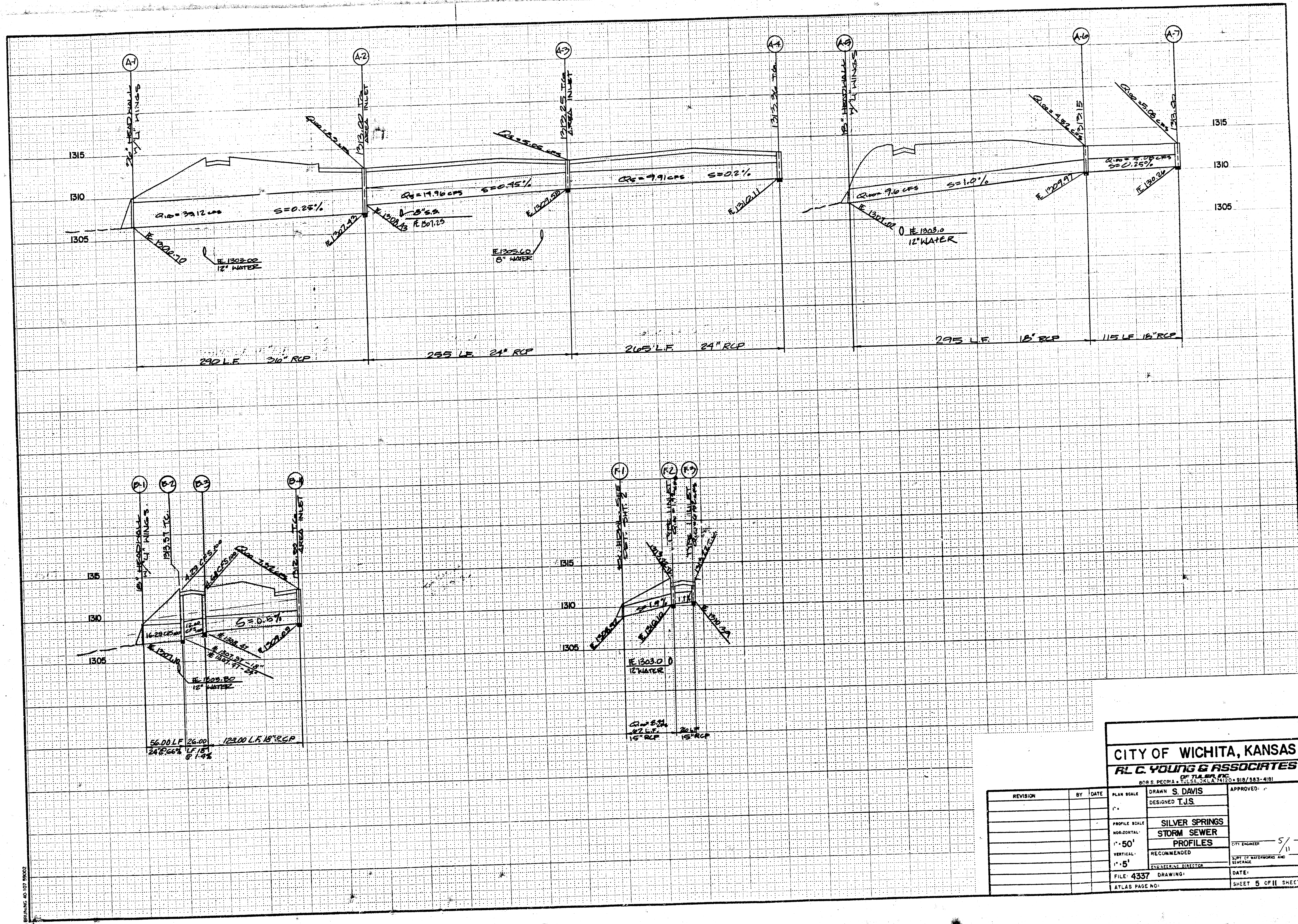




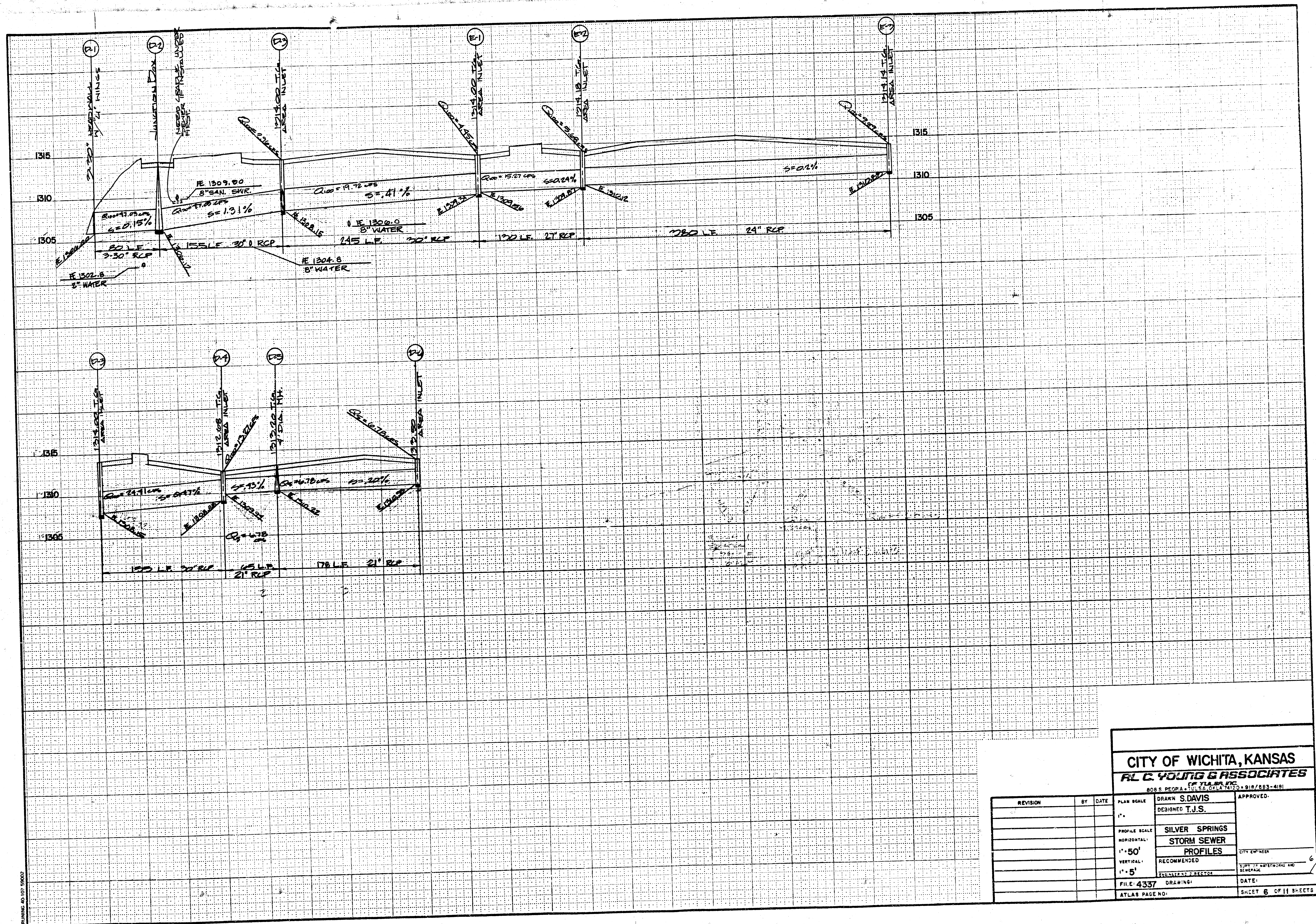
COMPACT THESE AREAS TO 95%
STANDARD PROCTOR DENSITY, BEFORE
CONSTRUCTING STREETS.

CITY OF WICHITA, KANSAS
R. C. YOUNG & ASSOCIATES

REVISION	BY	DATE	PLAN SCALE	DESIGNED TJS	APPROVED
			1"=50'	SILVER SPRINGS	
			PROFILE SCALE	PAVING PROFILES	
			HORIZONTAL		
			VERTICAL	RECOMMENDED	
			FILE: 4237	DRAWING	
			ATLAS PAGE NO:		



CITY OF WICHITA, KANSAS		R.L.C. YOUNG & ASSOCIATES	
DRAWN: S. DAVIS		DESIGNED: T.J.S.	
PROJECT: SILVER SPRINGS		STORM SEWER	
PROFILES		RECOMMENDED	
FILE: 4337		DRAWING: 5/11	
ATLAS PAGE NO:		SHEET 5 OF 11 SHEETS	



MANHOLE FRAME AND COVER DETAIL

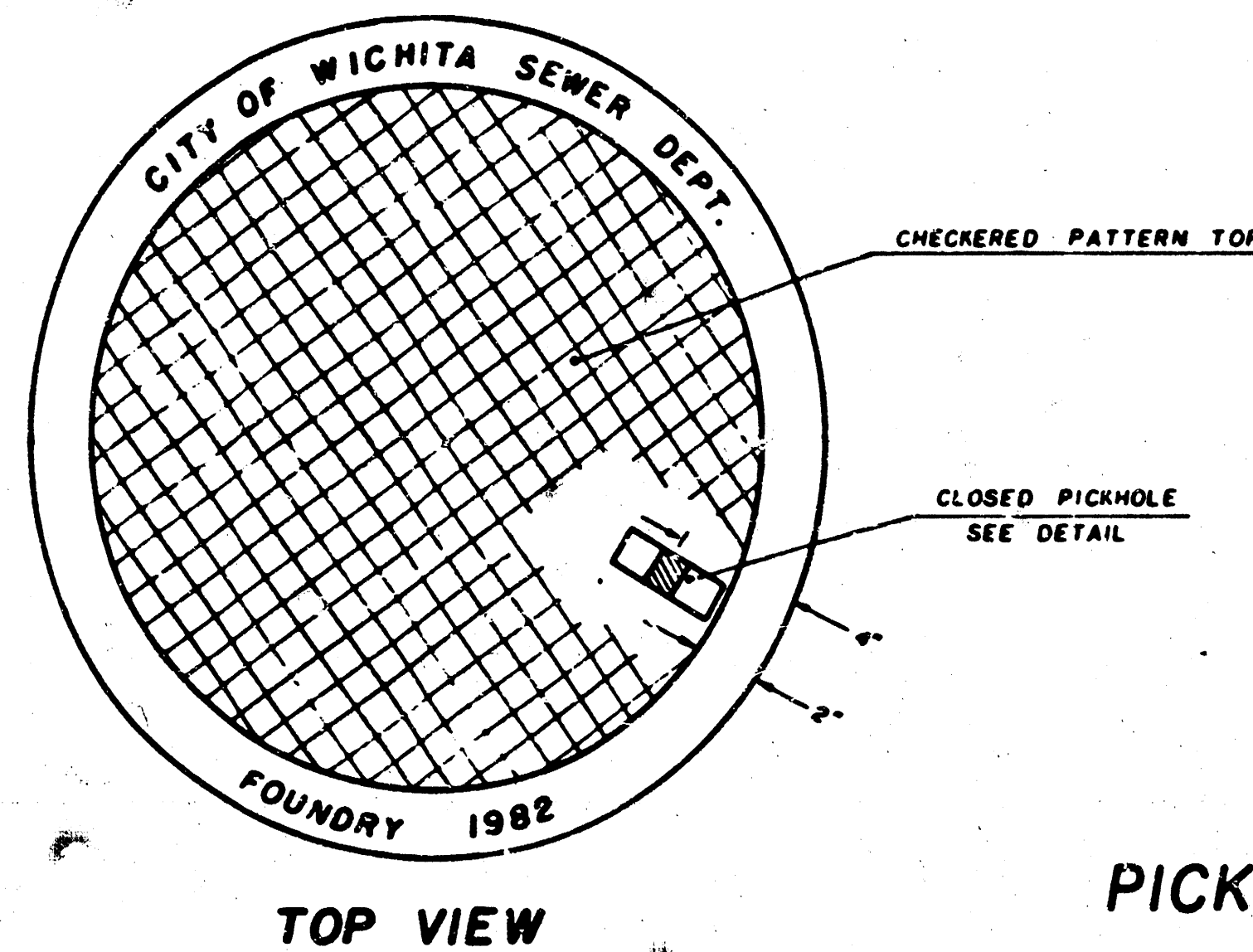
ADOPTED AS STANDARD DESIGN

BY

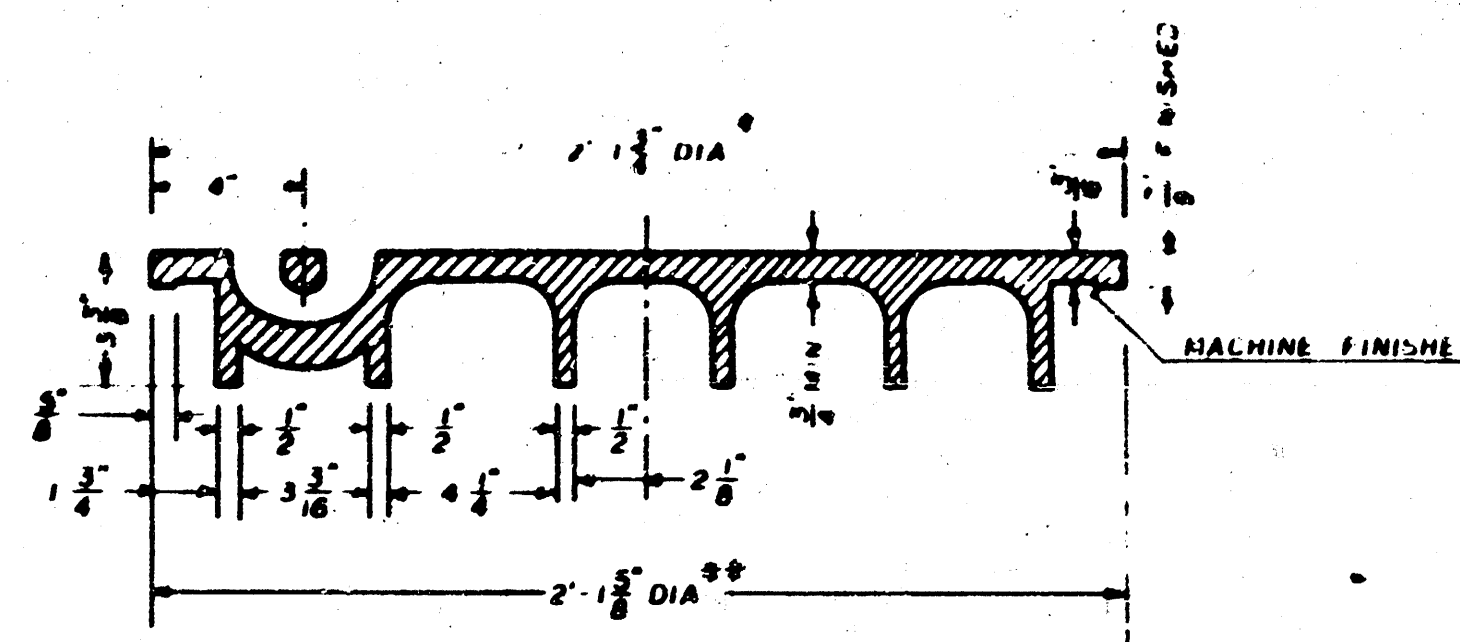
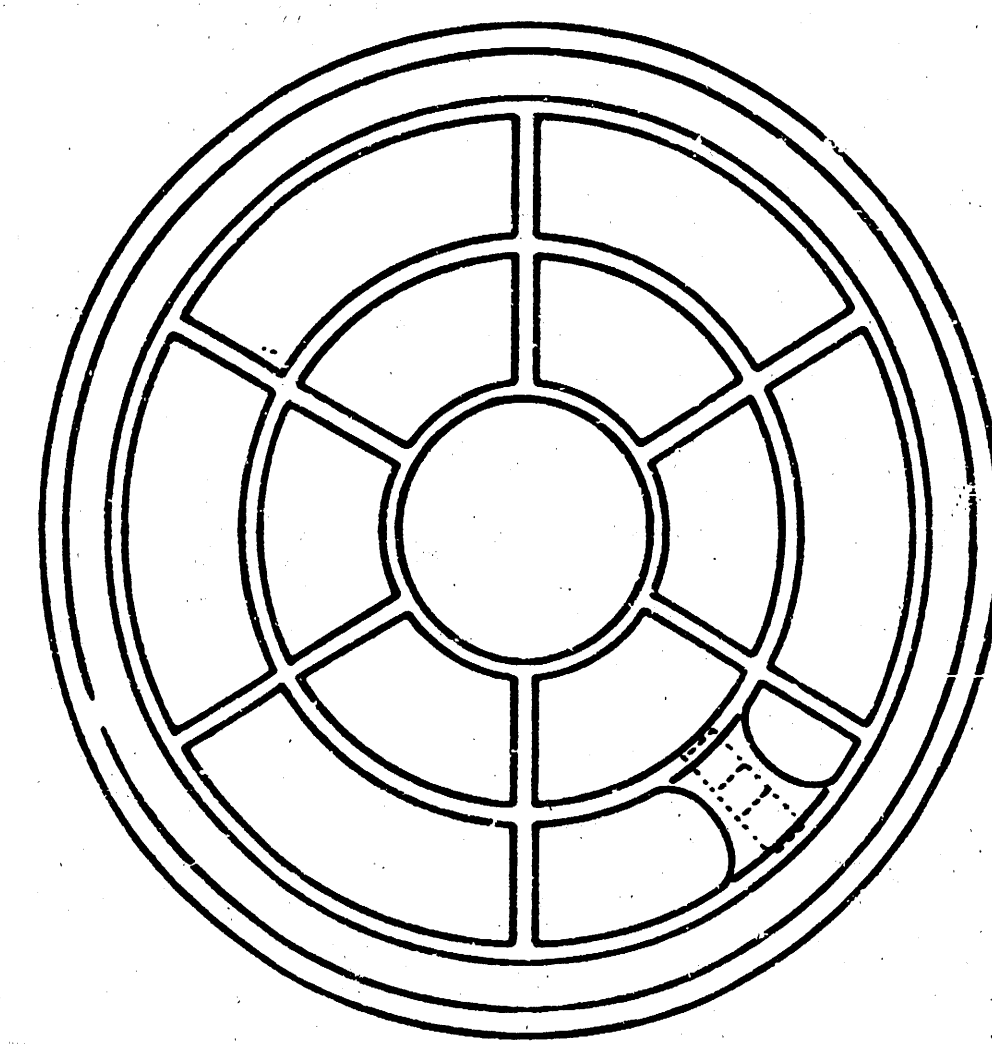
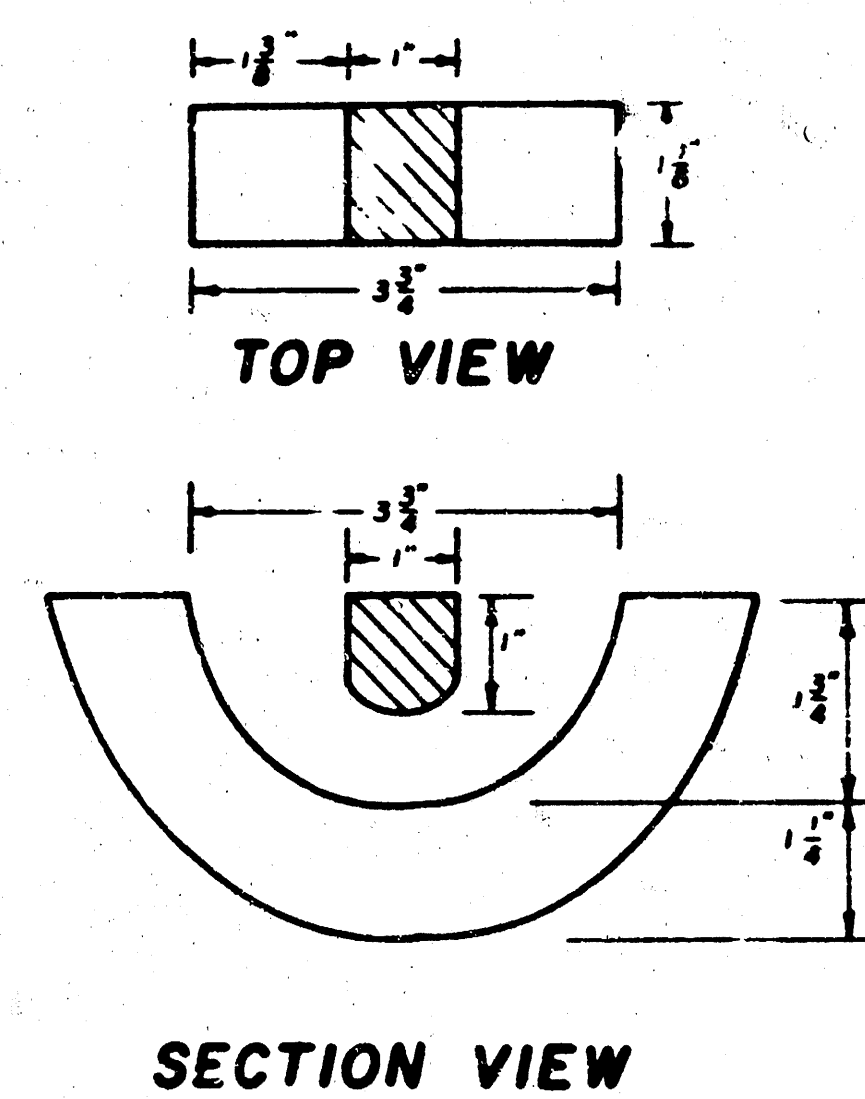
City of Wichita, Kansas

MANHOLE COVER

Weight: 180 Lbs.



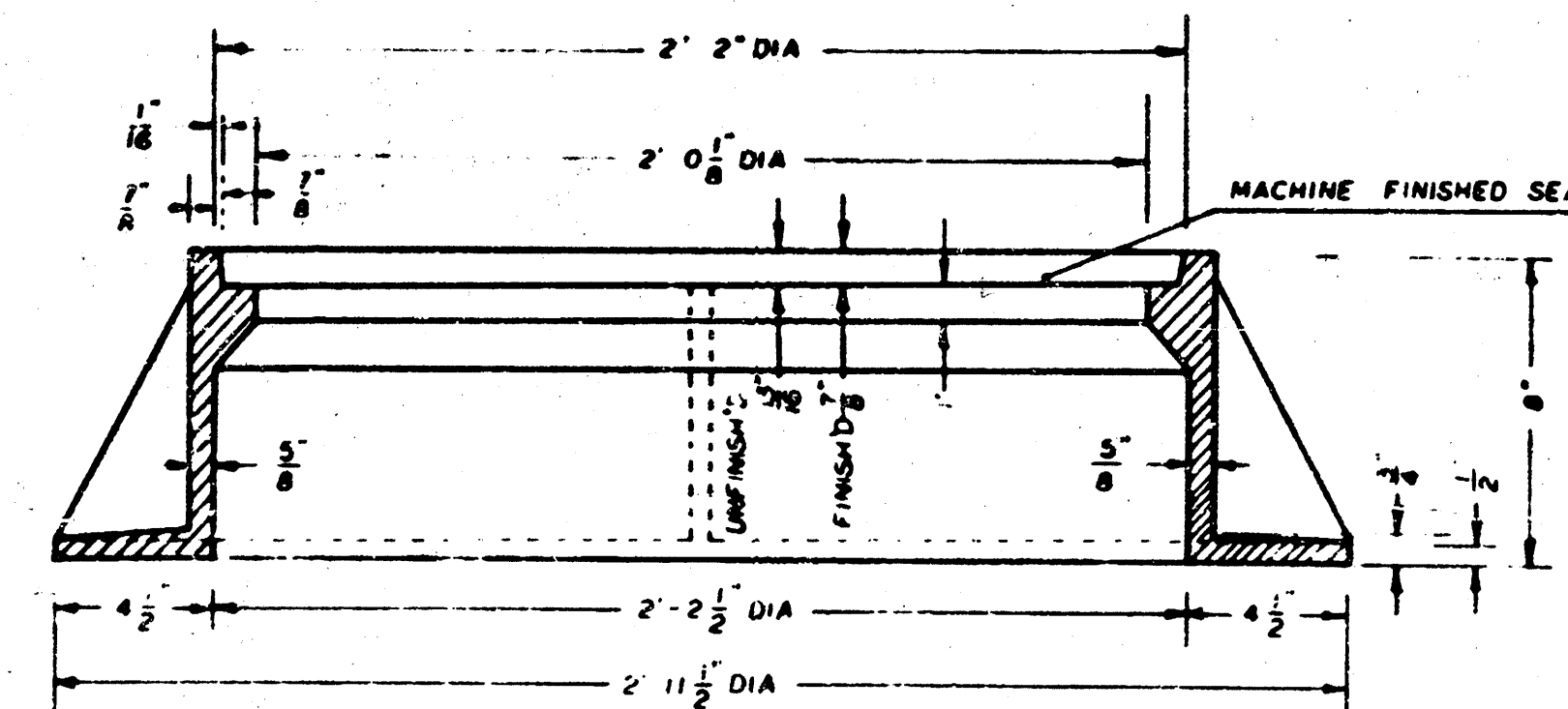
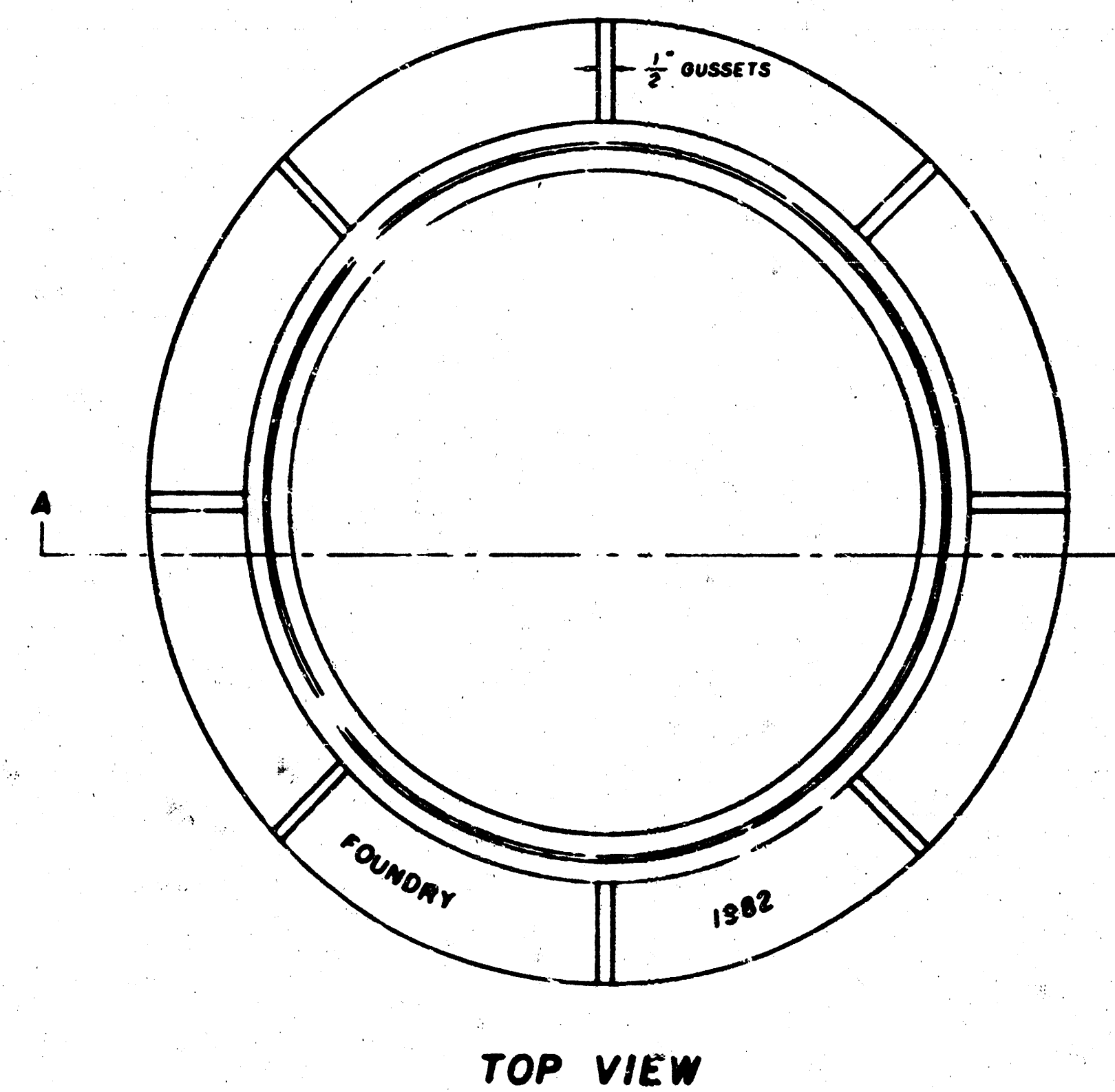
PICKHOLE DETAIL



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

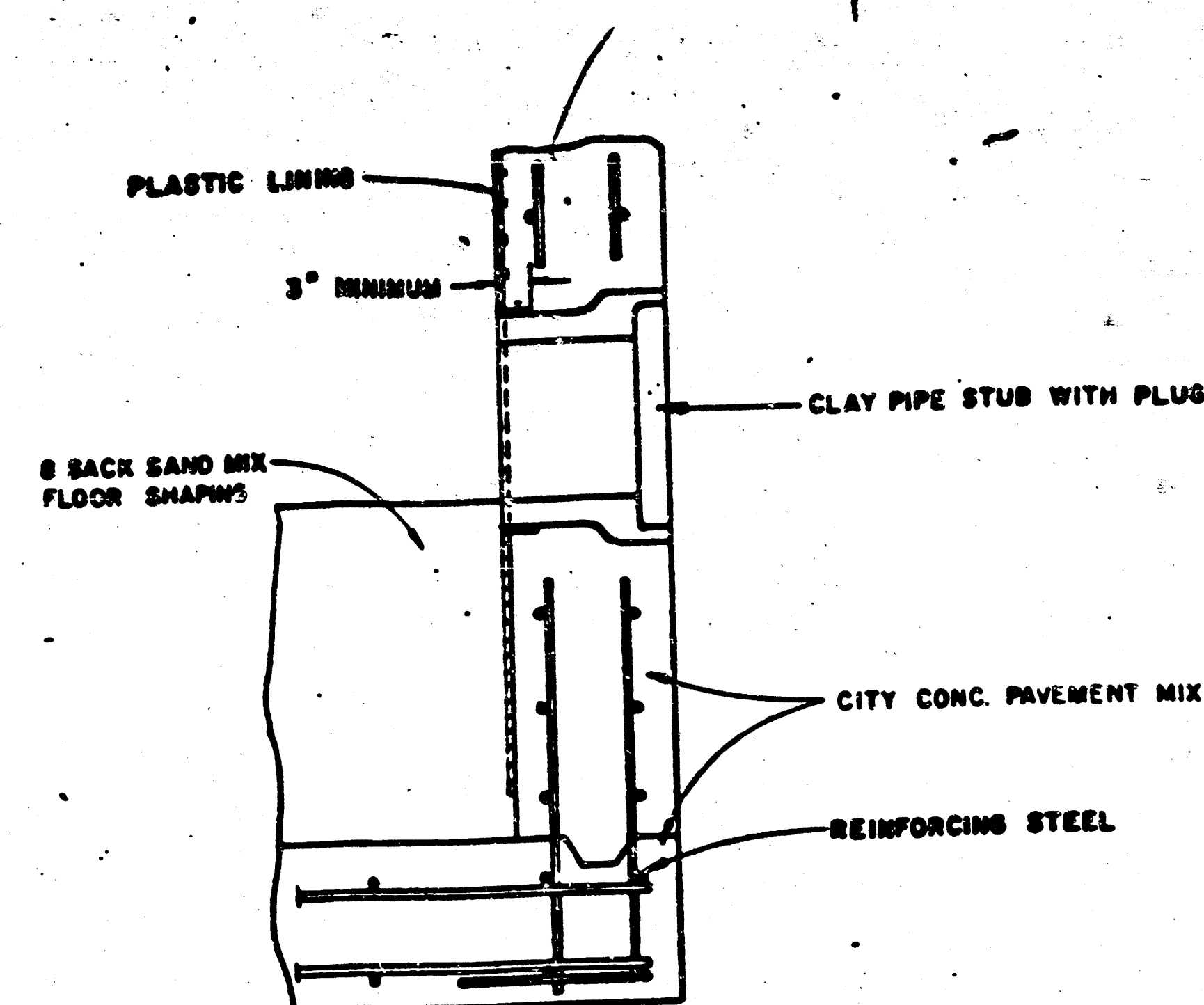
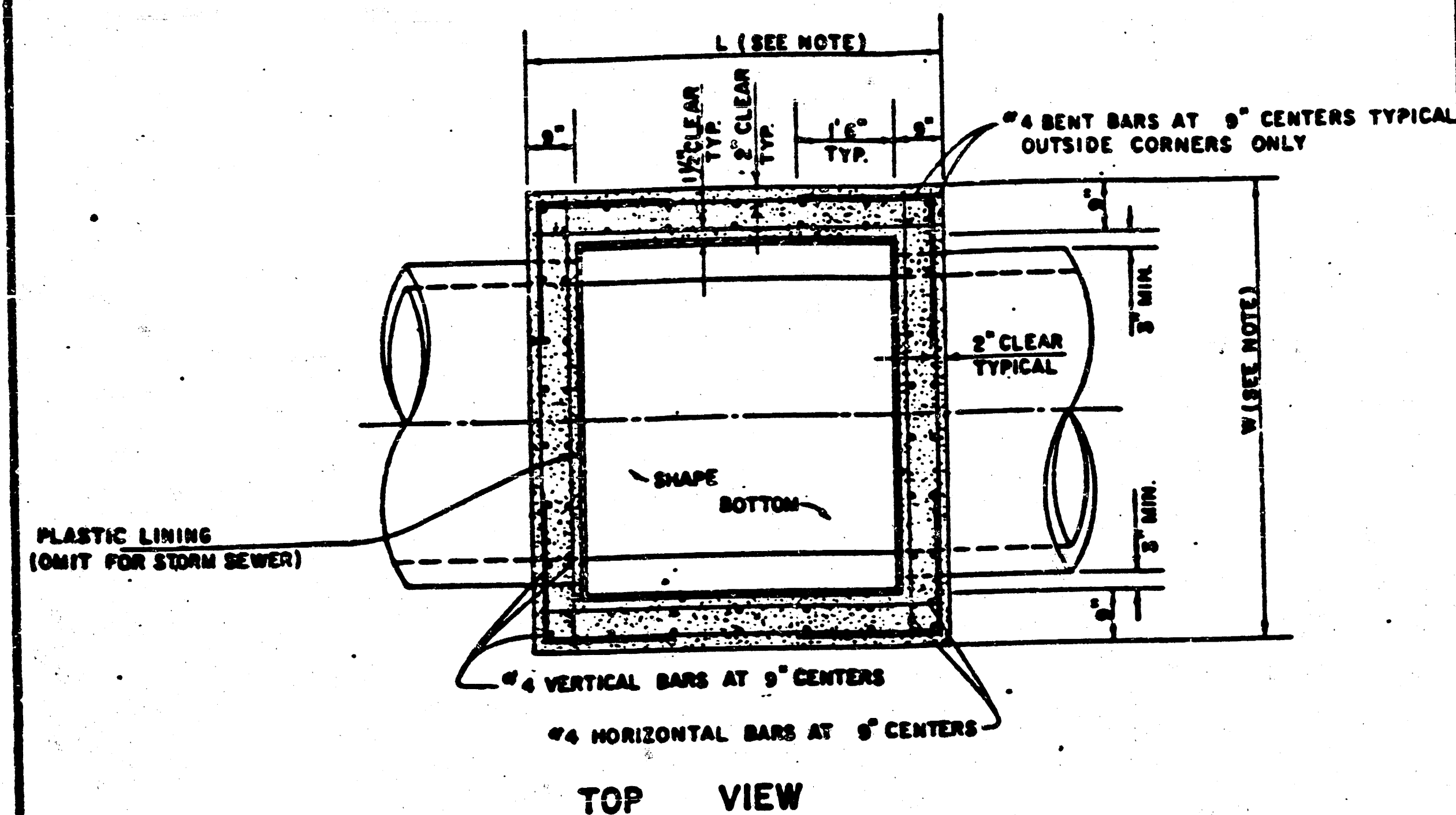
MANHOLE FRAME

Weight: 240 Lbs.

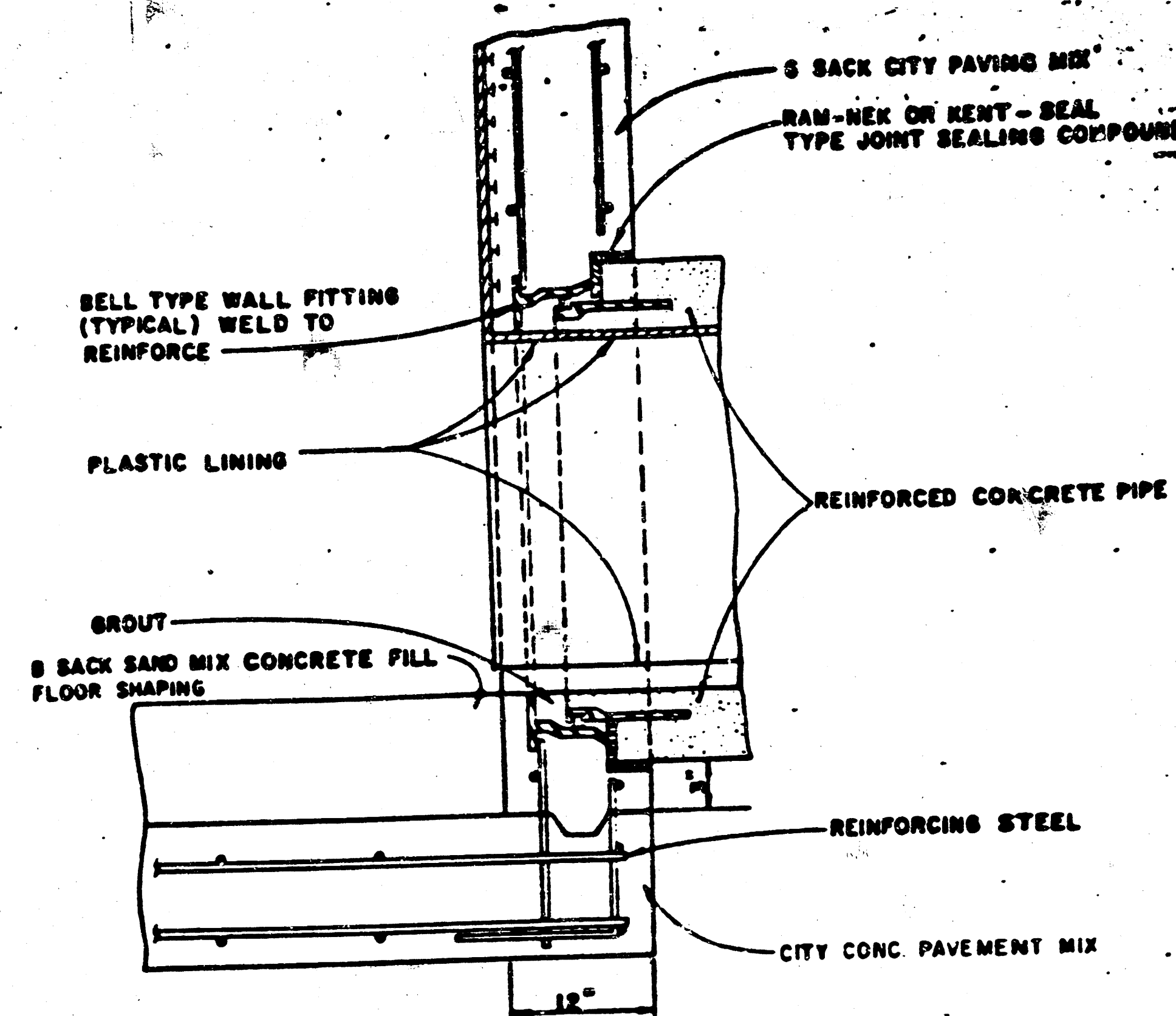


GENERAL NOTES

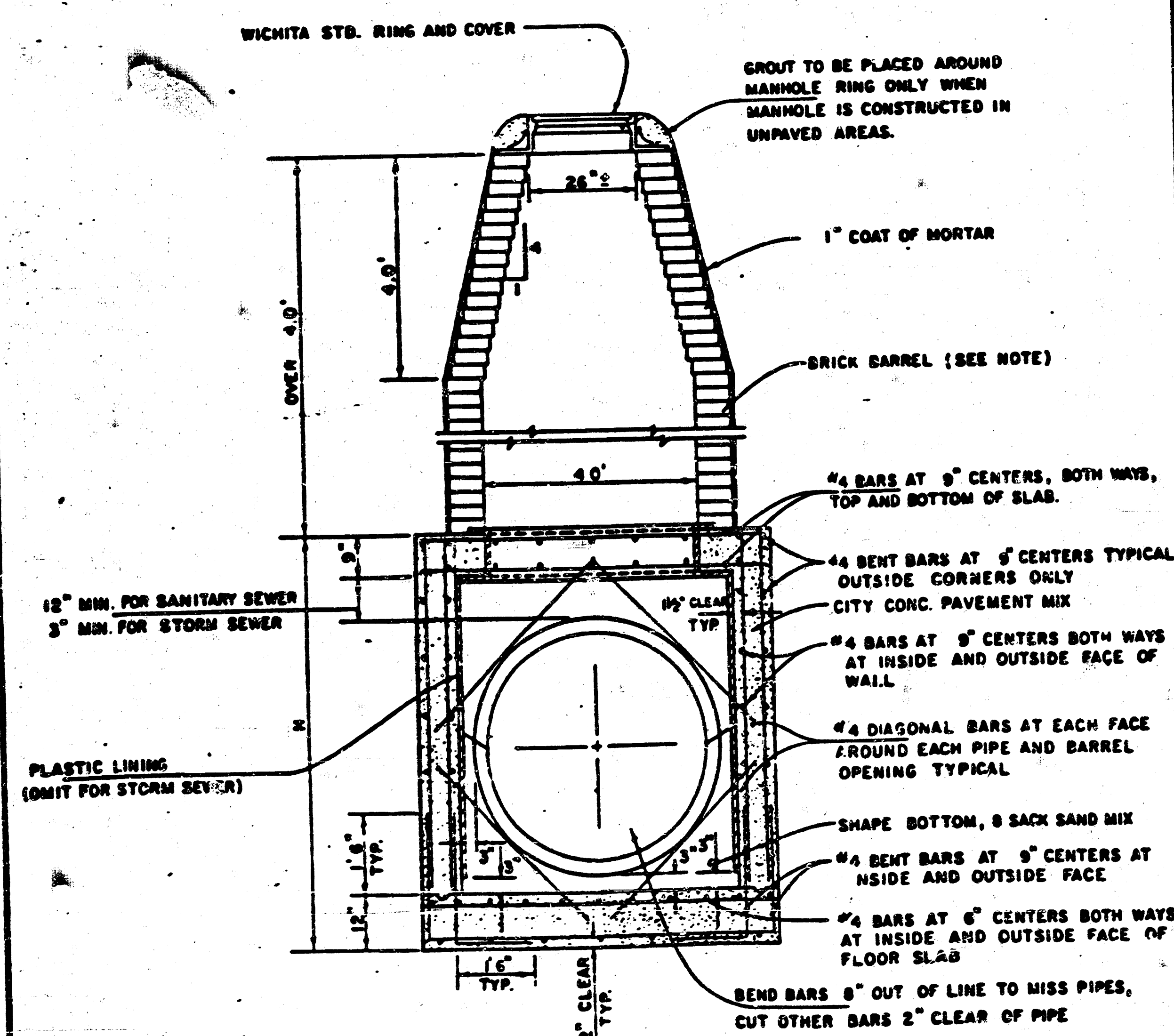
1. MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A-48. DIMENSIONS AND WEIGHTS SHOWN ON THE DETAIL DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER DEFECTS.
2. MANHOLE CASTINGS SHALL BE COATED WITH AN ASPHALT PAINT RESULTING IN A SMOOTH, TOUGH AND TENACIOUS COATING WHICH IS NOT BRITTLE OR TACKY.
3. 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.
4. 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 THAT THESE SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.
5. 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" 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 BLOCKOUTS 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.



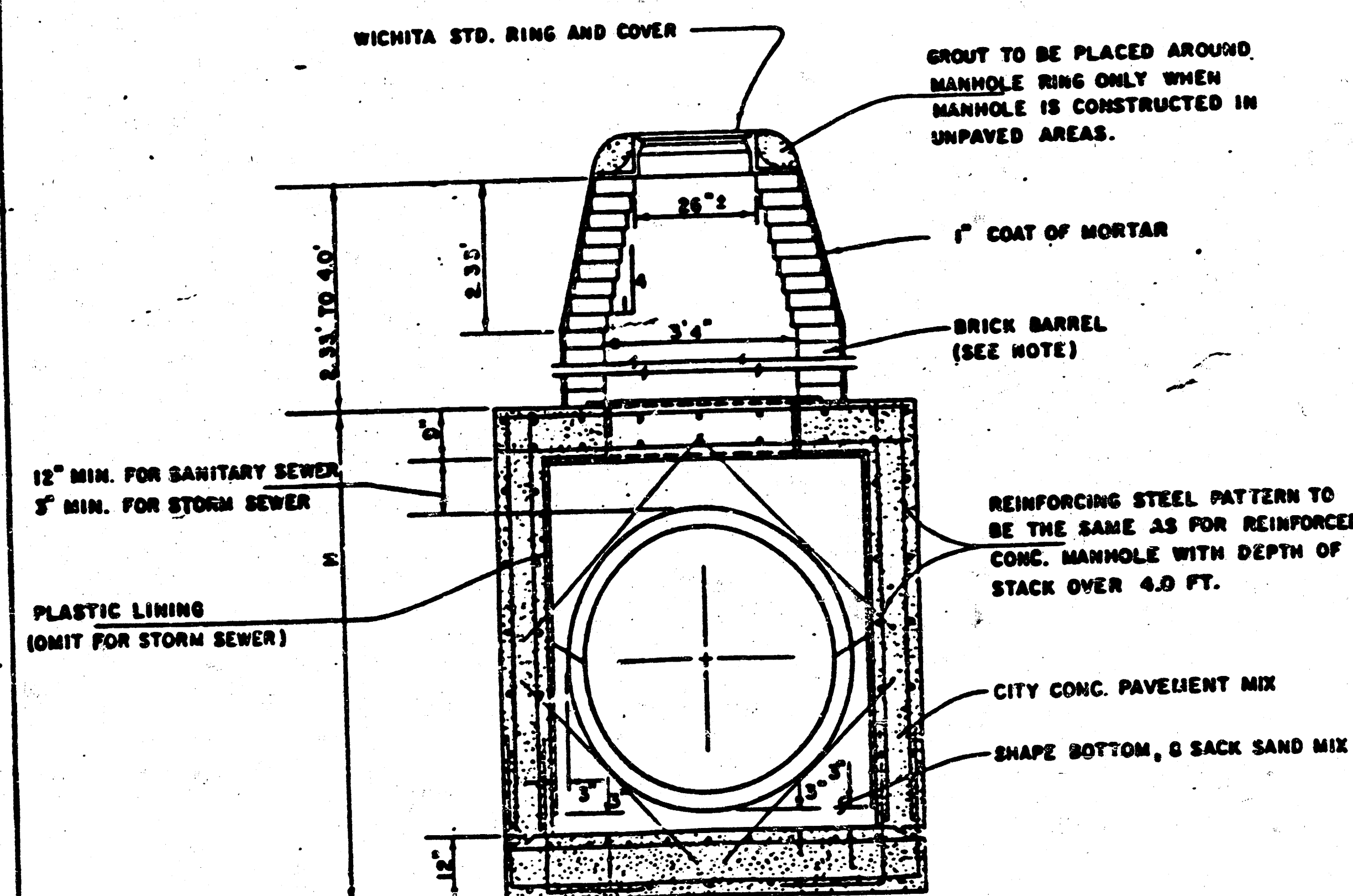
V.C.P. CONNECTION DETAIL
SANITARY SEWER ONLY



R.C.P. CONNECTION DETAIL
SANITARY SEWER ONLY

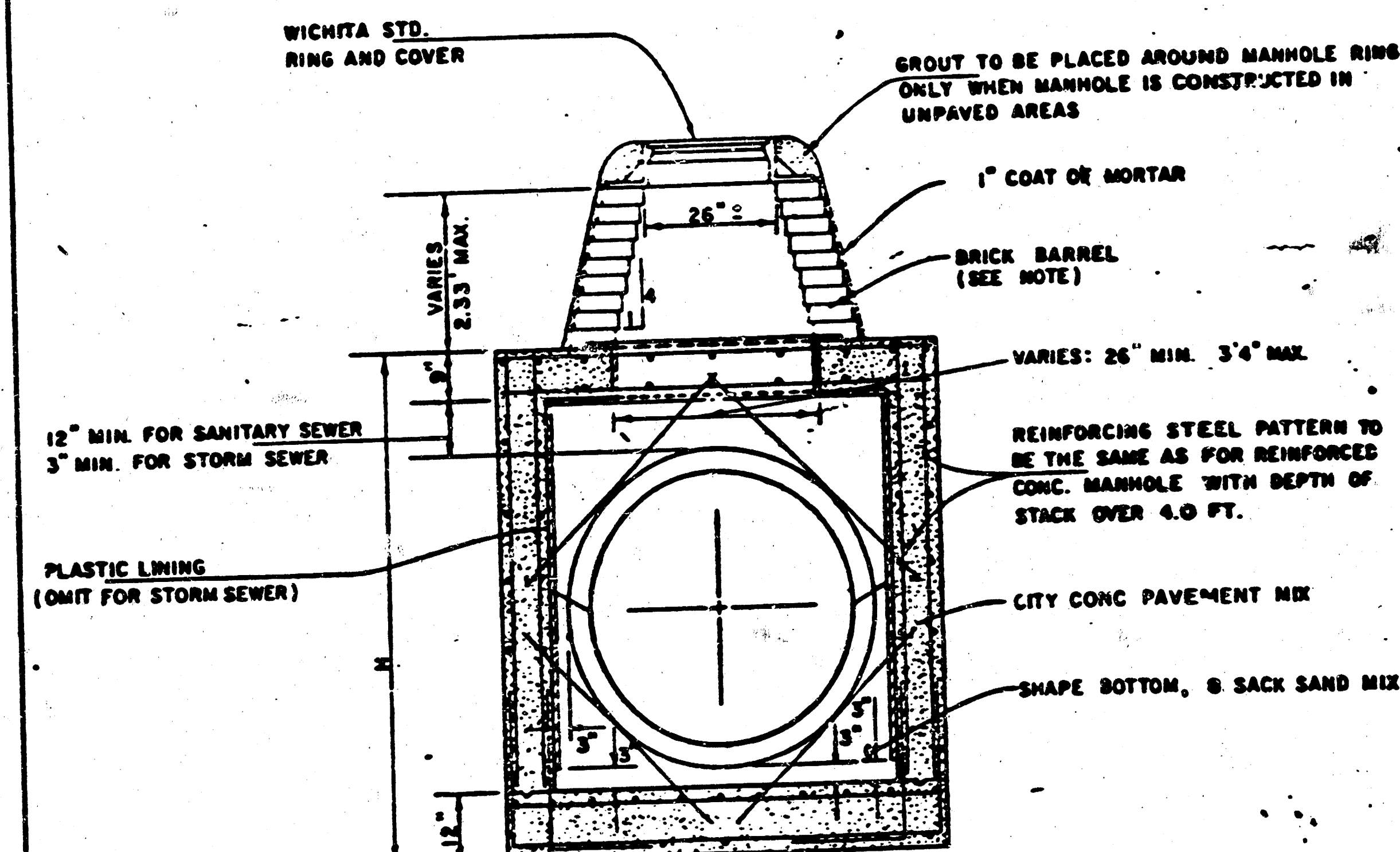


REINFORCED CONCRETE MANHOLE
DEPTH OF STACK: OVER 4.0'
SCALE 1" = 2'



REINFORCED CONCRETE MANHOLE
DEPTH OF STACK: 2.33' TO 4.0'
SCALE 1" = 2'

NOTE:
BRICK BARRELS LESS THEN 16' DEEP SHALL HAVE 8" WALLS EXCEPT WHEN LOCATED WITHIN PUBLIC STREET OR ALLEY PAVEMENT THEN THE WALL SHALL BE 12". BRICK BARRELS MORE THEN 16' DEEP SHALL HAVE 12" WALLS. THE "L" AND "W" DIMENSIONS SHALL BE A MINIMUM OF 5'6" FOR BRICK BARRELS WITH 8" WALLS AND 6'2" FOR BRICK BARRELS WITH 12" WALLS.



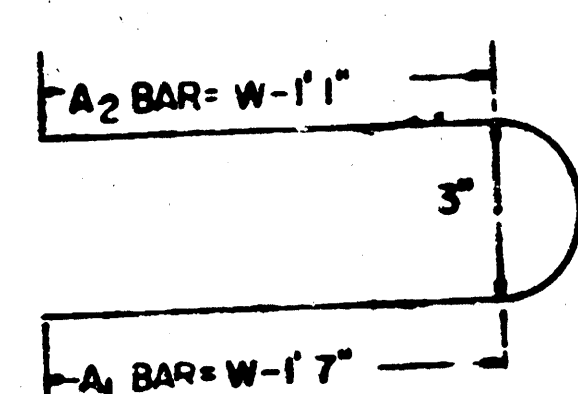
REINFORCED CONCRETE MANHOLE
DEPTH OF STACK: 0' TO 2.33'
SCALE 1" = 2'

STANDARD DETAILS
REINFORCED CONCRETE MANHOLES

CITY OF WICHITA

FEBRUARY 1984

8 OF 11

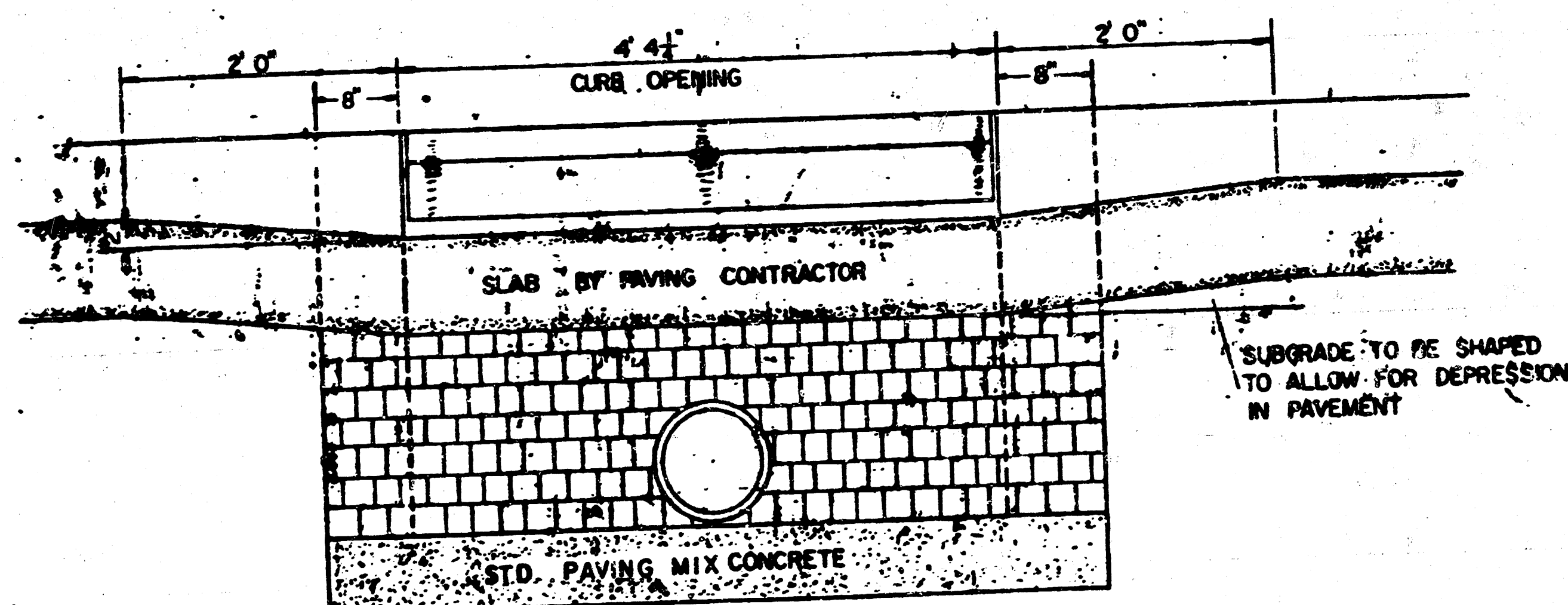


PLAN
SCALE 1"=10'

REINF STEEL TO BE PLACED ON 6" CTR'S

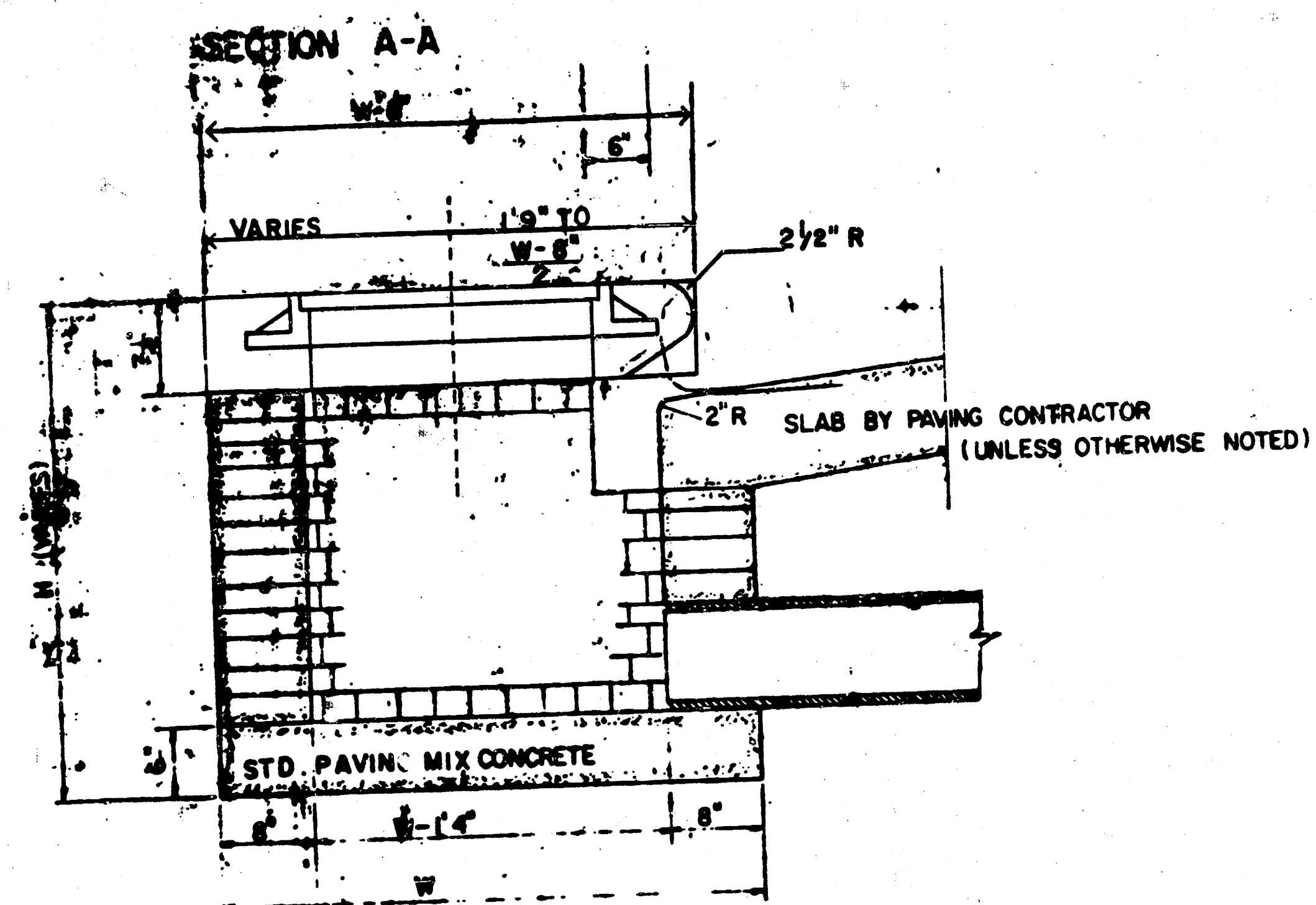
		b.									Wt.
BAR		a ₁	a ₂	a ₃	W=50 W=40 W=50		b ₂	b ₃	b ₄	Wt. Lbs.	
SIZE		"4	"4	"4	"4	"4	"4	"4	"6		
NUMBER		4	4	2	3	5	6	1	1		
LENGTH	W=4'2"	5'5"	6'5"	5'7"	5'5"	-	-	1'7"	5'6"	4'0"	6'0"
	W=5'0"	7'1"	8'1"	4'7"	5'5"	-	-	1'7"	5'6"	4'0"	7'7"
	W=6'0"	9'1"	10'1"	5'7"	-	-	5'5"	1'7"	5'6"	4'0"	9'7"

* NOTE: A₃ BARS TO BE PLACED APPROXIMATELY 2" BELOW TOP OF INLET COVER



SECTION C-C
SCALE: 1"=10'

BRICK FOR INLET CONSTRUCTION SHALL
CONFORM WITH THE LATEST REVISION OF
THE AMERICAN SOCIETY FOR TESTING AND
MATERIALS DESIGNATION C32 FOR MANHOLE
BRICK GRADE MS.

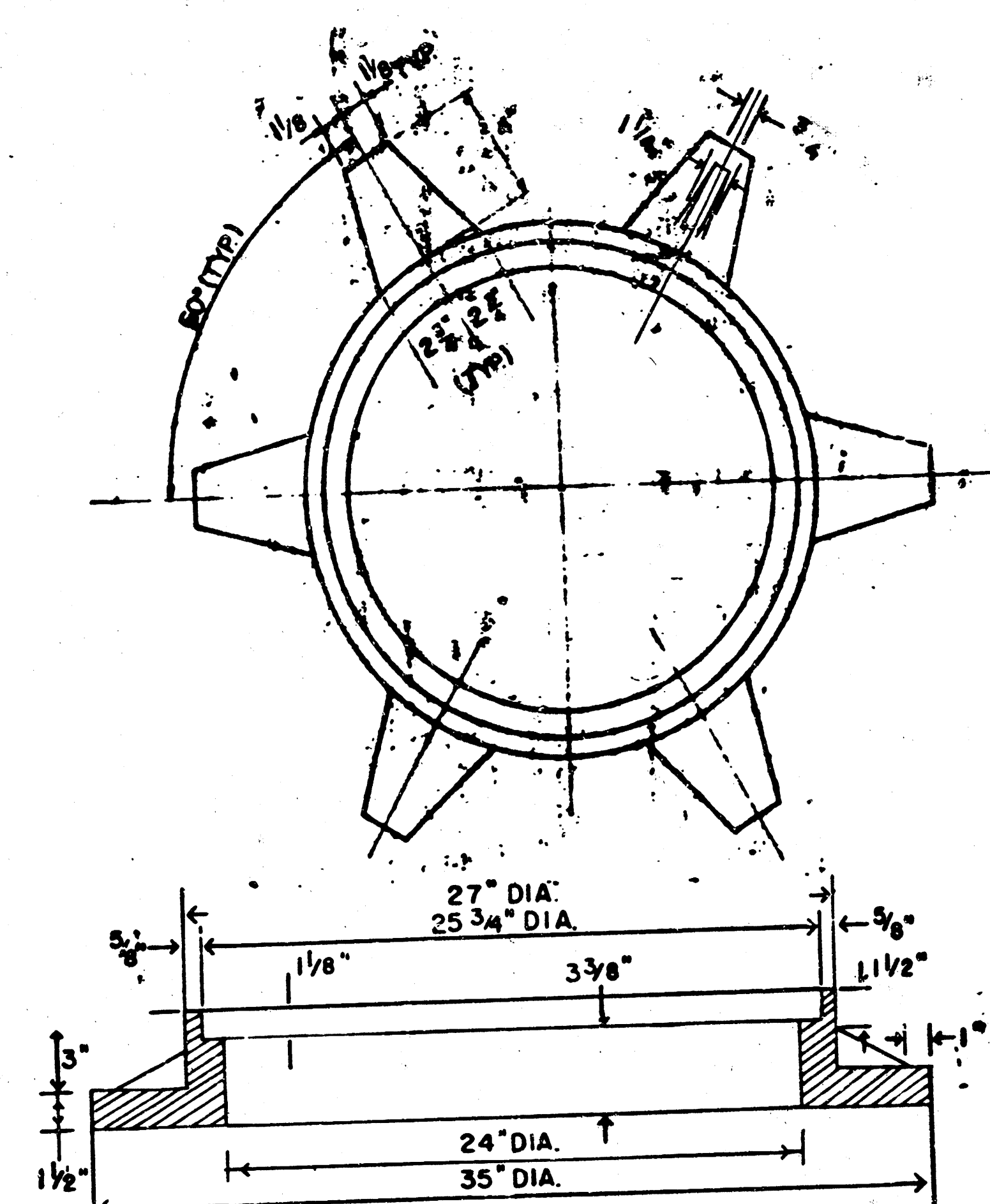
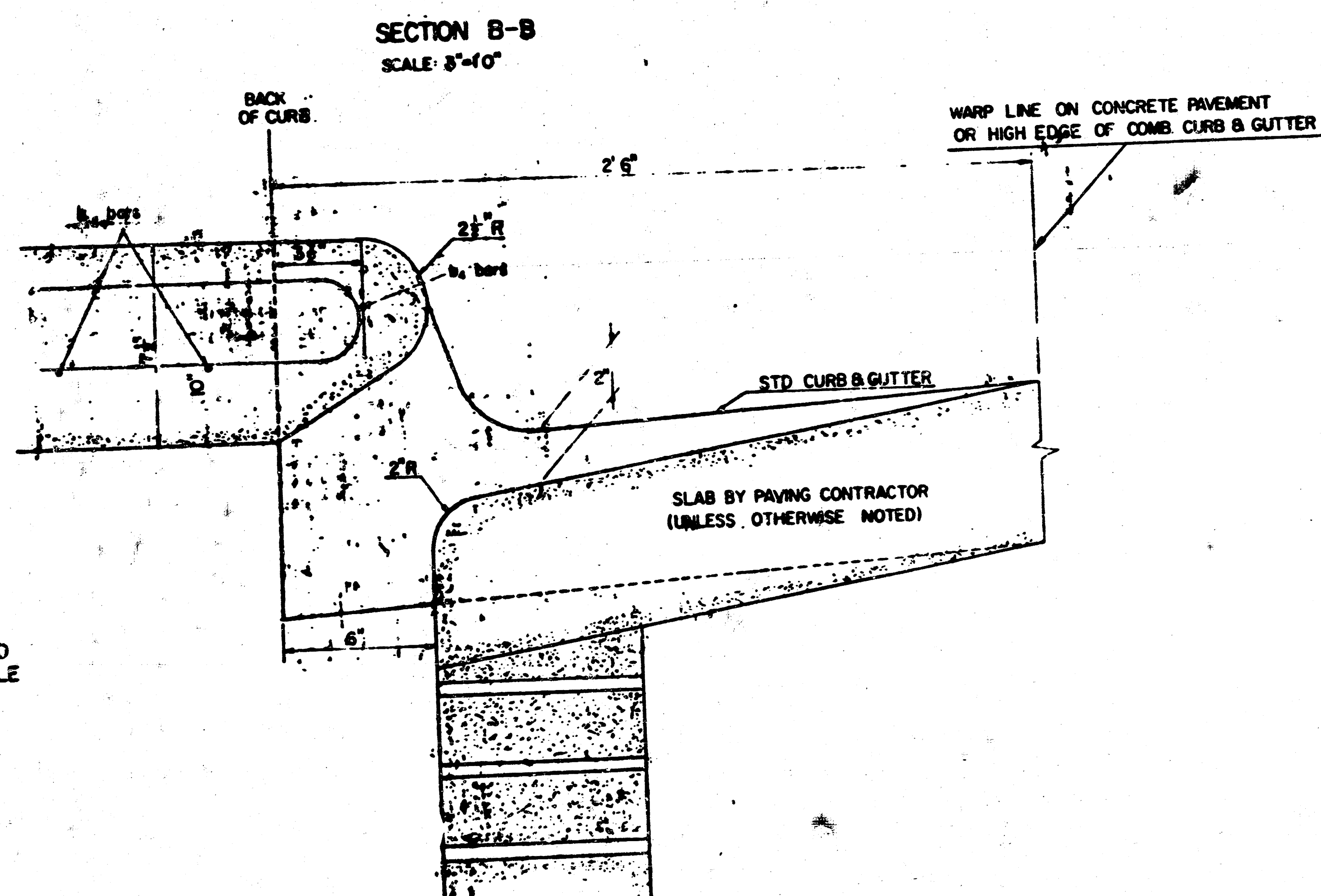


SECTION A-A
SCALE: 1" = 1' 0"

STD CURB INLET CONCRETE TOP			
W	SIZE	PIPE SIZE	CU YD CONC
4' 2"	36" X 58" X 7'	24" & SMALLER	0.46 ^{cu}
5' 0"	44" X 58" X 7'	30" & 36"	0.57 ^{cu}
6' 0"	54" X 58" X 7'	42" & 48"	0.71 ^{cu}

*GROSS VOLUME

CONCRETE TOPS TO BE INSTALLED ON THIN MORTAR CUSHION TO INSURE FULL SUPPORT ALONG BRICK WALLS. CONCRETE TOPS MAY BE CAST IN PLACE OR PRECAST CONCRETE FOR INLET TOPS AND FLOORS SHALL BE STD. PAVING MIX.



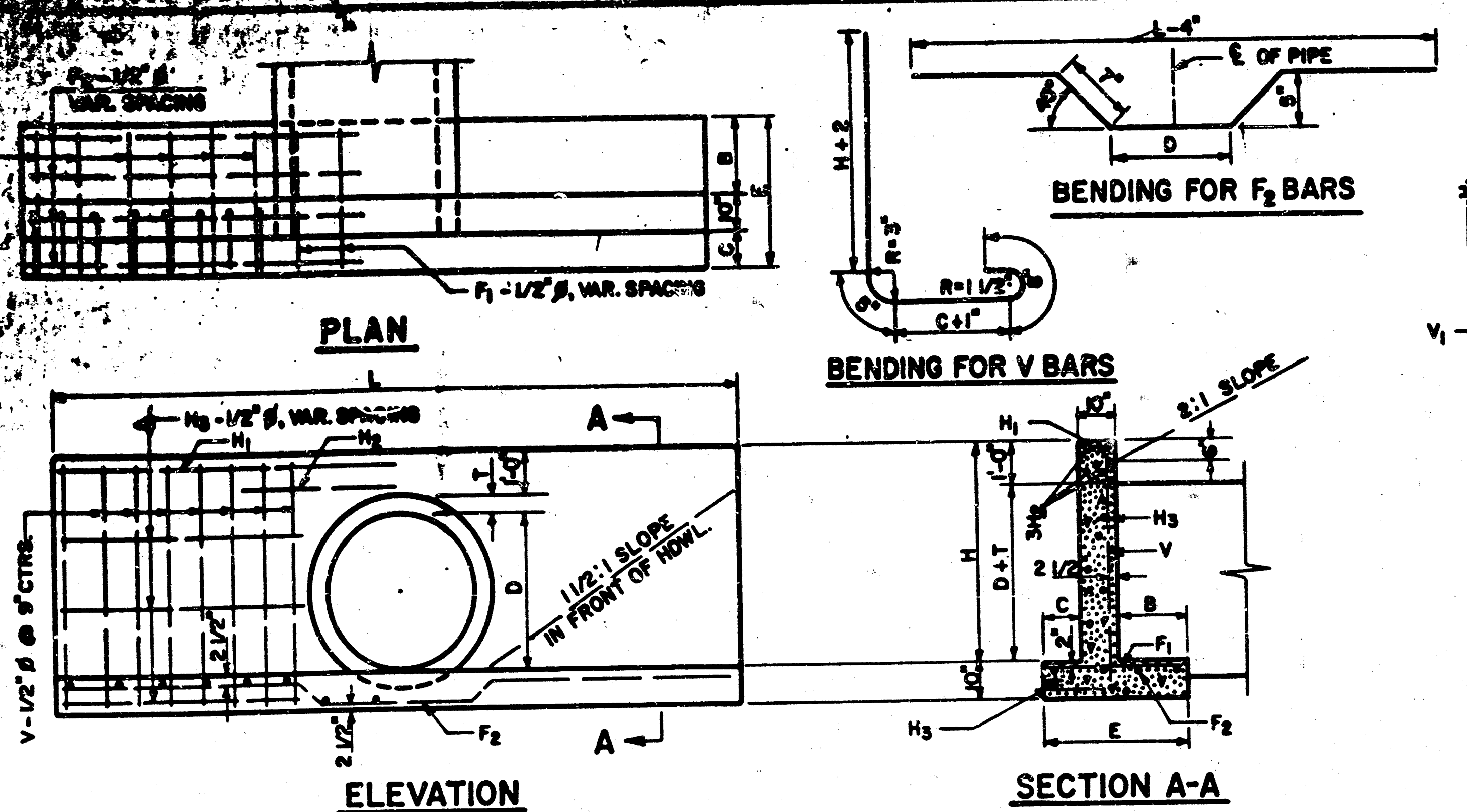
MAAHPLE RING

SEE SEWER APPURTENANCES DETAIL
SHEET FOR MANHOLE COVER

THIS TYPE INLET TO BE USED WHEN PAVEMENT IS ASPHALT PAVEMENT WITH CONCRETE BASE AND/OR WHEN PAVEMENTS HAVE FULL HEIGHT STANDARD CURBS.

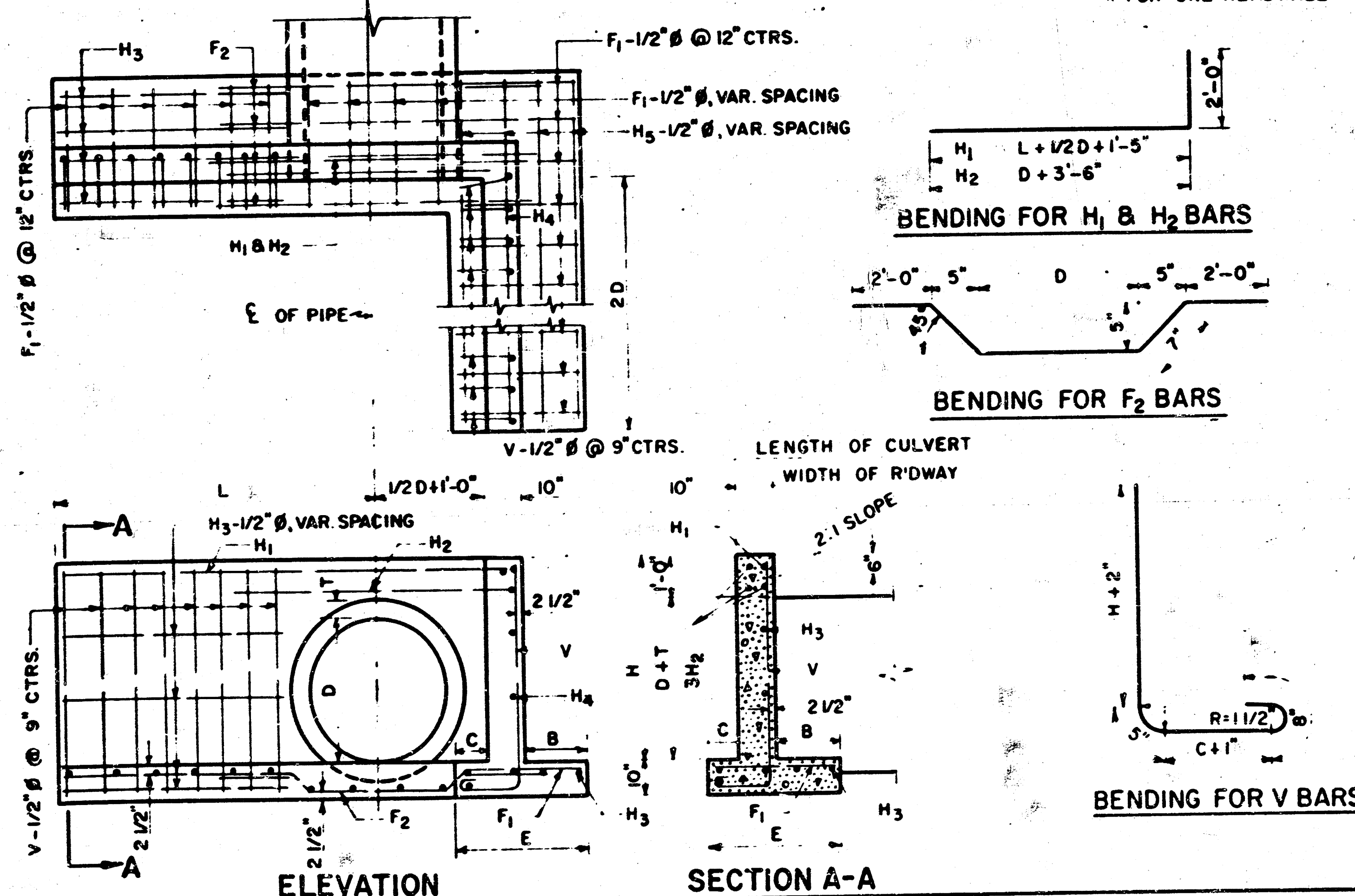
DETAIL
STANDARD CURB INLET-TYPE I
CITY OF WICHITA, KANSAS

FEBRUARY, 1975



DIMENSIONS							REINFORCING STEEL							QUANTITIES*	
D	AREA SQ. FT.	T	H	L	E	B	C	F ₁ -1/2" Ø	F ₂ -1/2" Ø	H ₁ -1/2" Ø	H ₂ -1/2" Ø	H ₃ -1/2" Ø	V-1/2" Ø	CLASS "A" REINF. CONC. C.Y.	STEEL LBS.
15'	1.23	2 1/4"	2'-5 1/4"	6'-0"	2'-2"	10"	6"	6	1'-10"	3	6'-0"	1	5'-8"	0.78	56
18'	1.77	2 1/2"	2'-8 1/2"	7'-0"	2'-3"	11"	6"	8	1'-11"	3	7'-0"	1	6'-8"	0.98	70
24'	3.14	3"	3'-3"	9'-0"	2'-7"	1'-3"	6"	11	2'-3"	3	9'-0"	1	8'-8"	1.46	95
30'	4.91	3 1/2"	3'-9 1/2"	11'-0"	2'-10"	1'-4"	8"	11	2'-6"	3	11'-0"	1	10'-8"	2.00	122
36'	7.07	4"	4'-4"	14'-0"	3'-1"	1'-7"	8"	16	2'-9"	4	14'-0"	1	13'-8"	2.85	170
42'	9.62	4 1/2"	4'-10 1/2"	16'-0"	3'-4"	1'-8"	10"	16	3'-0"	4	16'-0"	1	15'-8"	3.58	198

* FOR ONE HEADWALL

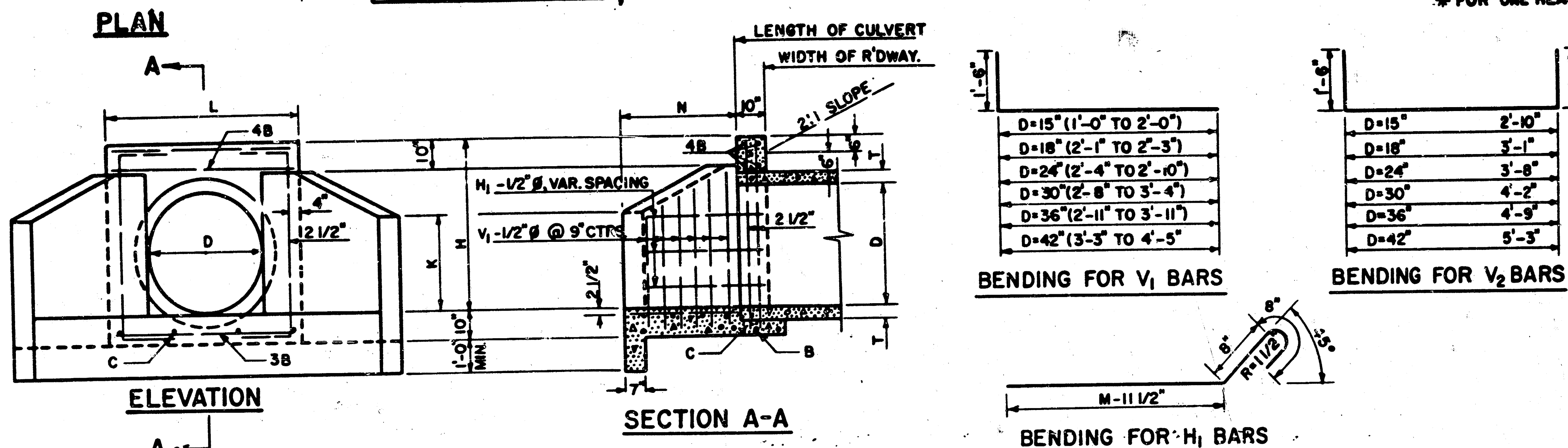


DIMENSIONS							REINFORCING STEEL							QUANTITIES*	
D	AREA SQ. FT.	T	H	L	E	B	C	F ₁ -1/2" Ø	F ₂ -1/2" Ø	H ₁ -1/2" Ø	H ₂ -1/2" Ø	H ₃ -1/2" Ø	V-1/2" Ø	CLASS "A" REINF. CONC. C.Y.	STEEL LBS.
15'	1.23	2 1/4"	2'-5 1/4"	3'-0"	2'-2"	10"	6"	10	1'-10"	3	6'-0"	1	5'-8"	1.09	84
18'	1.77	2 1/2"	2'-8 1/2"	3'-6"	2'-3"	11"	6"	10	1'-11"	3	6'-8"	1	5'-8"	1.32	97
24'	3.14	3"	3'-3"	4'-6"	2'-7"	1'-3"	6"	14	2'-3"	3	7'-2"	1	8'-8"	1.94	131
30'	4.91	3 1/2"	3'-9 1/2"	5'-6"	2'-10"	1'-4"	8"	16	2'-6"	3	7'-8"	1	10'-8"	2.59	163
36'	7.07	4"	4'-4"	7'-0"	3'-1"	1'-7"	8"	19	2'-9"	4	8'-2"	1	11'-8"	3.47	216
42'	9.62	4 1/2"	4'-10 1/2"	8'-0"	3'-4"	1'-8"	10"	21	3'-0"	4	8'-8"	1	13'-8"	4.37	252

* FOR ONE HEADWALL

DIMENSIONS							REINFORCING STEEL							QUANTITIES*	
D	AREA SQ. FT.	T	H	K	L	M	N	A ₁ -1/2" Ø	A ₂ -1/2" Ø	B-1/2" Ø	C-1/2" Ø	H ₁ -1/2" Ø	V ₁ -1/2" Ø	CLASS "A" REINF. CONC. C.Y.	STEEL LBS.
15'	1.23	2 1/4"	2'-5 1/4"	1'-5"	3'-7"	1'-9"	1'-3"	4	1'-0"	2	3'-5" AV.	7	3'-5"	0.74	57
18'	1.77	2 1/2"	2'-8 1/2"	1'-7"	3'-10"	2'-1 1/2"	1'-6"	4	1'-2"	2	4'-3" AV.	7	3'-6"	0.91	61
24'	3.14	3"	3'-3"	1'-10 1/2"	4'-4"	2'-10"	2'-0"	5	1'-8"	3	5'-3" AV.	7	4'-0"	1.31	83
30'	4.91	3 1/2"	3'-9 1/2"	2'-2"	4'-10"	3'-8 1/2"	2'-8"	5	2'-2"	3	6'-3" AV.	7	4'-6"	1.77	104
36'	7.07	4"	4'-4"	2'-8 1/2"	5'-4"	4'-3"	3'-0"	6	2'-8"	4	7'-3" AV.	7	5'-0"	2.29	130
42'	9.62	4 1/2"	4'-10 1/2"	2'-9"	5'-10"	4'-11 1/2"	3'-6"	6	3'-2"	4	8'-3" AV.	7	5'-6"	2.89	151

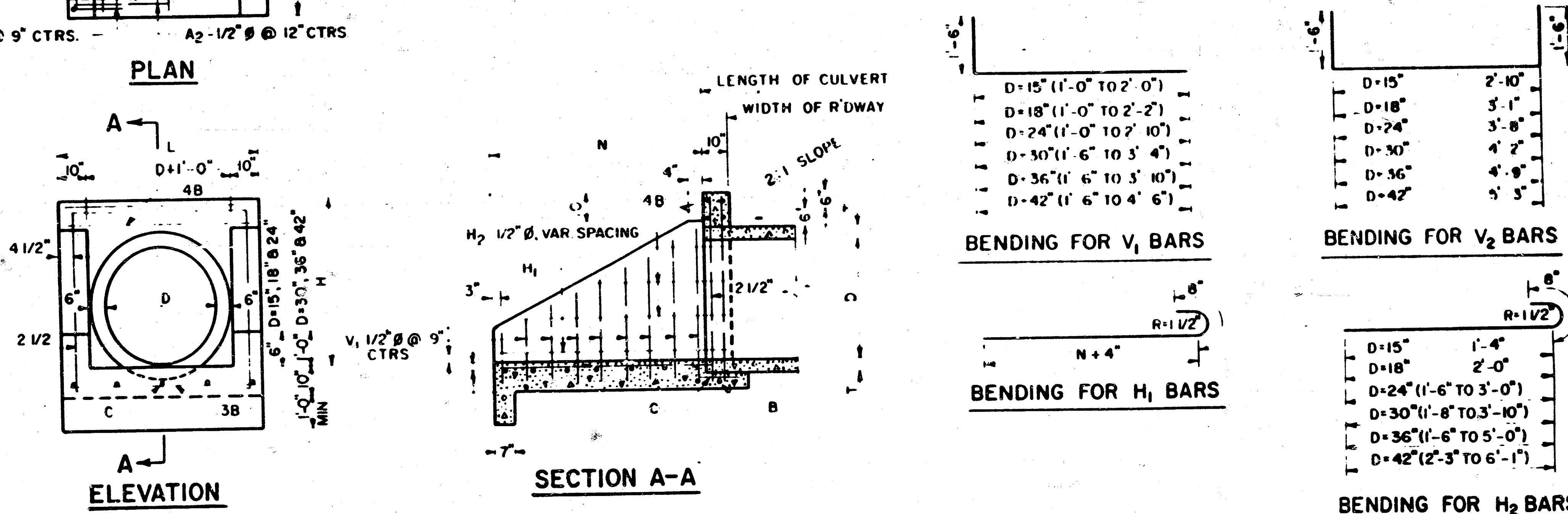
* FOR ONE HEADWALL



* USE THIS TYPE HEADWALL

DIMENSIONS							REINFORCING STEEL							QUANTITIES*	
D	AREA SQ. FT.	T	H	L	N		A ₁ -1/2" Ø	A ₂ -1/2" Ø	B-1/2" Ø	C-1/2" Ø	H ₁ -1/2" Ø	H ₂ -1/2" Ø	V ₁ -1/2" Ø	CLASS "A" REINF. CONC. C.Y.	STEEL LBS.
15'	1.23	2 1/4"	2'-5 1/4"	3'-11"	2'-6"	3	2'-2"	3	3'-7"	7	3'-7"	3	1'-6"	0.95	71
18'	1.77	2 1/2"	2'-8 1/2"	4'-2"	3'-1"	3	2'-9"	4	3'-10"	7	3'-10"	3	1'-6"	1.15	79
24'	3.14	3"	3'-3"	4'-8"	4'-2"	4	3'-10"	3	4'-4"	7	4'-4"	4	1'-6"	1.60	109
30'	4.91	3 1/2"	3'-9 1/2"	5'-2"	4'-3"	4	3'-11"	5	4'-10"	7	4'-10"	4	1'-6"	1.91	120
36'	7.07	4"	4'-4"	5'-8"	5'-4"	5	5'-0"	6	5'-4"	7	5'-4"	5	1'-6"	2.48	152
42'	9.62	4 1/2"	4'-10 1/2"	6'-2"	6'-5"	5	6'-1"	7	5'-10"	7	5'-10"	5	1'-6"	3.12	188

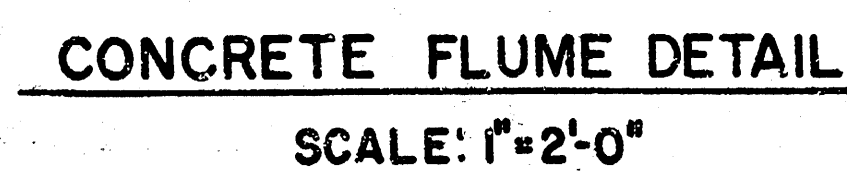
* FOR ONE HEADWALL



GENERAL NOTES

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF TULSA STANDARD SPECIFICATIONS.
ALL EXPOSED CONCRETE SURFACES SHALL HAVE A CARBORUNDUM FINISH.
ALL EXPOSED CONCRETE EDGES SHALL HAVE A 3/4" CHAMFER.
REINFORCED CONCRETE PIPE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-170 (ASTM C-76) CLASS III UNLESS OTHERWISE DESIGNATED.
MINIMUM DEPTH OF FILL OVER CULVERTS SHALL BE 1'-0".
WALL THICKNESS (DIMENSION "T") OF PIPES SHOWN, ARE TAKEN FROM "WALL B" COLUMN OF ASTM & AASHTO TABLES.

CITY ENGINEER	STANDARD PIPE HEADWALLS 15" TO 42"
DESIGN NO.	
SHEET 10 OF 11	



				CITY OF WICHITA, KANSAS	
				AL C. YOUNG & ASSOCIATES	
				OF TULSA, INC.	
				808 S. PEGARA - TULSA, OKLA. 74106 - 9 8 / 583 - 415	
REVISION	BY	DATE	PLAN SCALE	DRAWN C. DAVIS	APPROVED
			1" = 10'	DESIGNED E.A.P.	
				SILVER SPRINGS	
			PAPER SCALE	DECEL LANE, ENTRY	
			HORIZONTAL	DETAIL SHEET	
			1"		
			VERTICAL	RECOMMENDED	
			1"	1/4" = 1' (SEE SHEET 1)	
			FILE	DRAWING	DATE
			AT ES PAGE NO.	SHEET	OF 02 SHEETS