

CITY OF WICHITA, KANSAS

MICHAEL E. LINDEBAK, P.E., CITY ENGINEER

STORM WATER SEWER NO. 331

TALLGRASS EAST ADDITION

CITY OF WICHITA PROJECT NO. 468-76-245-81660-000-000-001

INDEX OF SHEETS

1. TITLE SHEET
2. PLAN AND PROFILE SHEETS
3. STANDARD DETAILS R.C. MANHOLE
4. DETAIL STANDARD TYPE 1A CURB INLET (L=11'-4")
5. DETAIL STANDARD TYPE 1A CURB INLET (L=6'-4")
6. MANHOLE FRAME AND COVER DETAIL

GENERAL NOTES

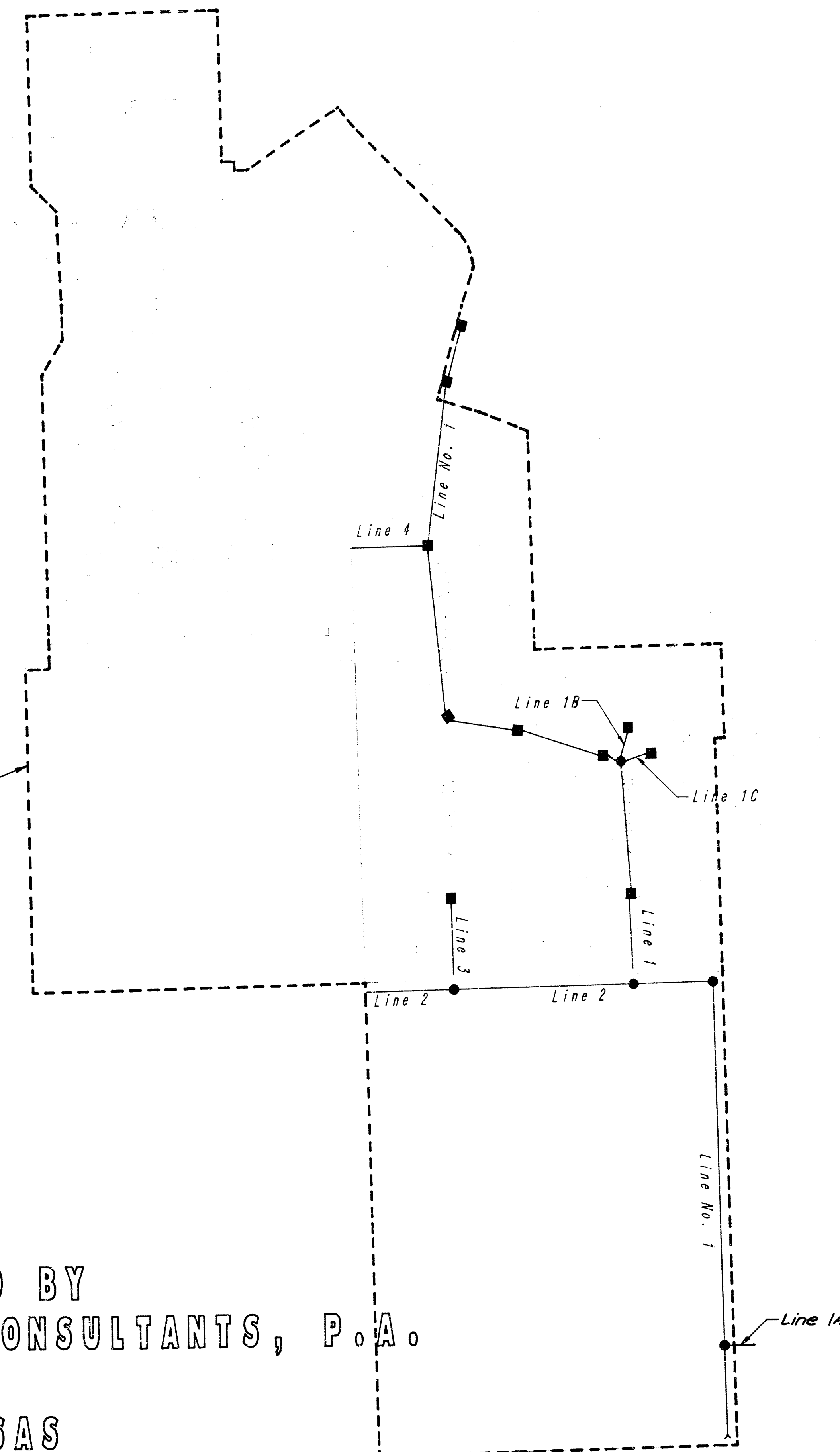
UNDERGROUND UTILITY SERVICE LINES AND OVERHEAD UTILITY POLE LINES ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR THEIR ADJUSTMENT BY THE CONTRACTOR. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS UTILITY COMPANIES AND IS EITHER FROM COMPANY RECORD DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. 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 fertilize, seed and mulch the swale between Lots 25 and 26, Block 2, the swale between Lots 42 and 43, Block 2 and the drainage ditch along the North side of 21st Street, as directed by the Engineer. This work shall be subsidiary to the Project.

PROJECT SURVEY CONTROL

VERTICAL DATUM:	CITY OF WICHITA DATUM
DATUM BENCH MARK:	C.O.W. DISC 44" SOUTH AND 48" EAST OF 6 WEBB RD. AND 21ST STREET NORTH. ELEV. +205.24
BENCH MARK NO. 1:	CHISELED "D" N.E. CORNER HEADWALL R.C.B. APPROX. 1050' EAST OF WEBB ROAD ON 21ST STREET NORTH. ELEV. +202.55
BENCH MARK NO. 2:	CHISELED "D" TOP OF CURB AT EAST END OF 6 MEDIUM ISLAND AT PLUMTHICKET CIRCLE AND WEBB ROAD. ELEV. +228.75
BENCH MARK NO. 3:	C.O.W. DISC 32" NORTH AND 28" EAST OF W. 1/4 COR. SEC. 4, T27S, R2E AT WEBB ROAD AND 25TH STREET NORTH. ELEV. +225.05
BENCH MARK NO. 4:	R.R. SPIKE IN N.E. FACE 12" OSAGE ORANGE APPROX. 150' LT. CLUBHOUSE DRIVE STA. 4+00. ELEV. +229.92
BENCH MARK NO. 5:	R.R. SPIKE IN EAST FACE 18" ASH APPROX. 90' RT. CLUBHOUSE DRIVE STA. 13+80. ELEV. +214.54
BENCH MARK NO. 6:	STEP-NAIL IN SOUTH FACE LAMINATED H.L.P. APPROX. 275' ± EAST AND 30' NORTH OF N.E. CORNER OF LOT 36, BLOCK 1. ELEV. +207.69

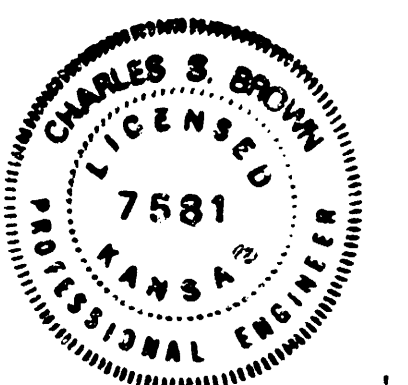
IMPROVEMENT DISTRICT
BOUNDARY



SCALE: 1" = 150'

AS BUILT
1/88
mcs

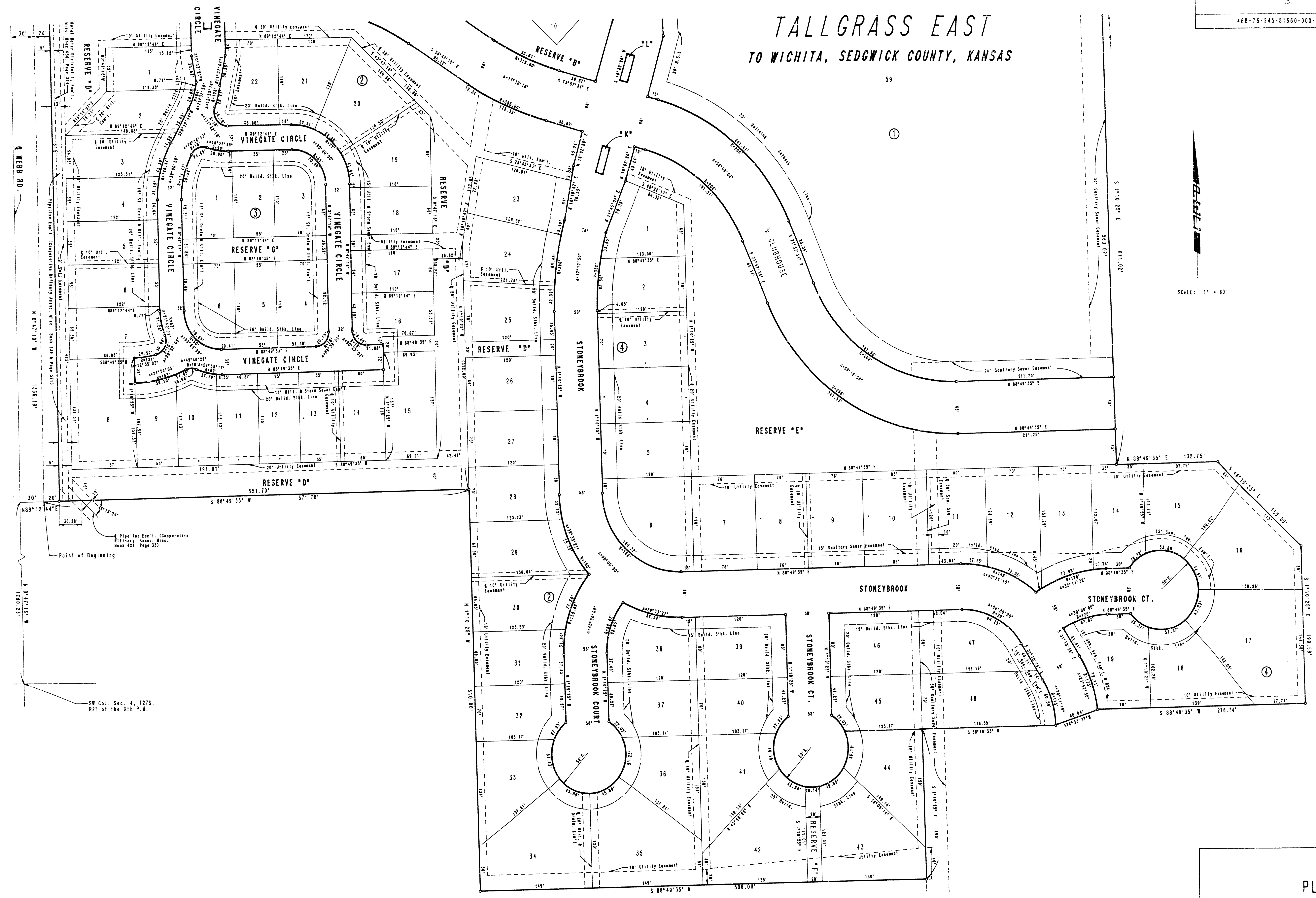
JUNE, 1987
PLANS PREPARED BY
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS



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TALLGRASS EAST TO WICHITA, SEDGWICK COUNTY, KANSAS

PROJECT NO.	SHEET NO.	TOTAL SHEETS
468-76-245-81660-000-001	2	15



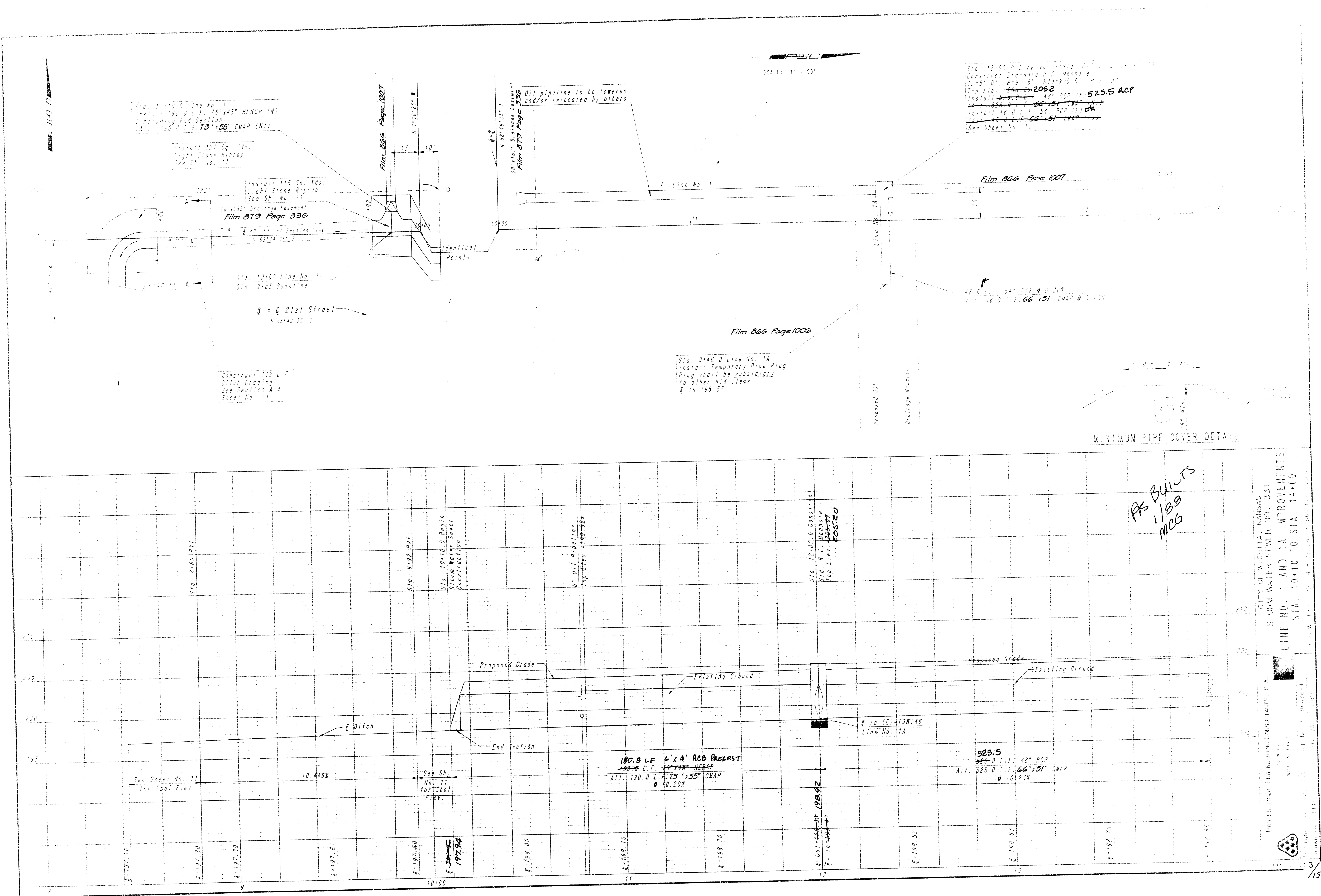
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PLAT

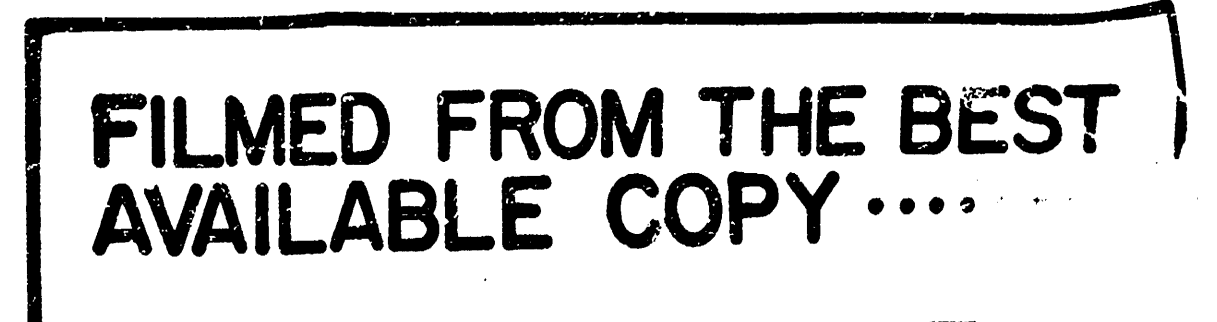
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by _____
Checked by _____
Drawn by DEP _____
Date: MAR., 1987 Job No. 86478-4

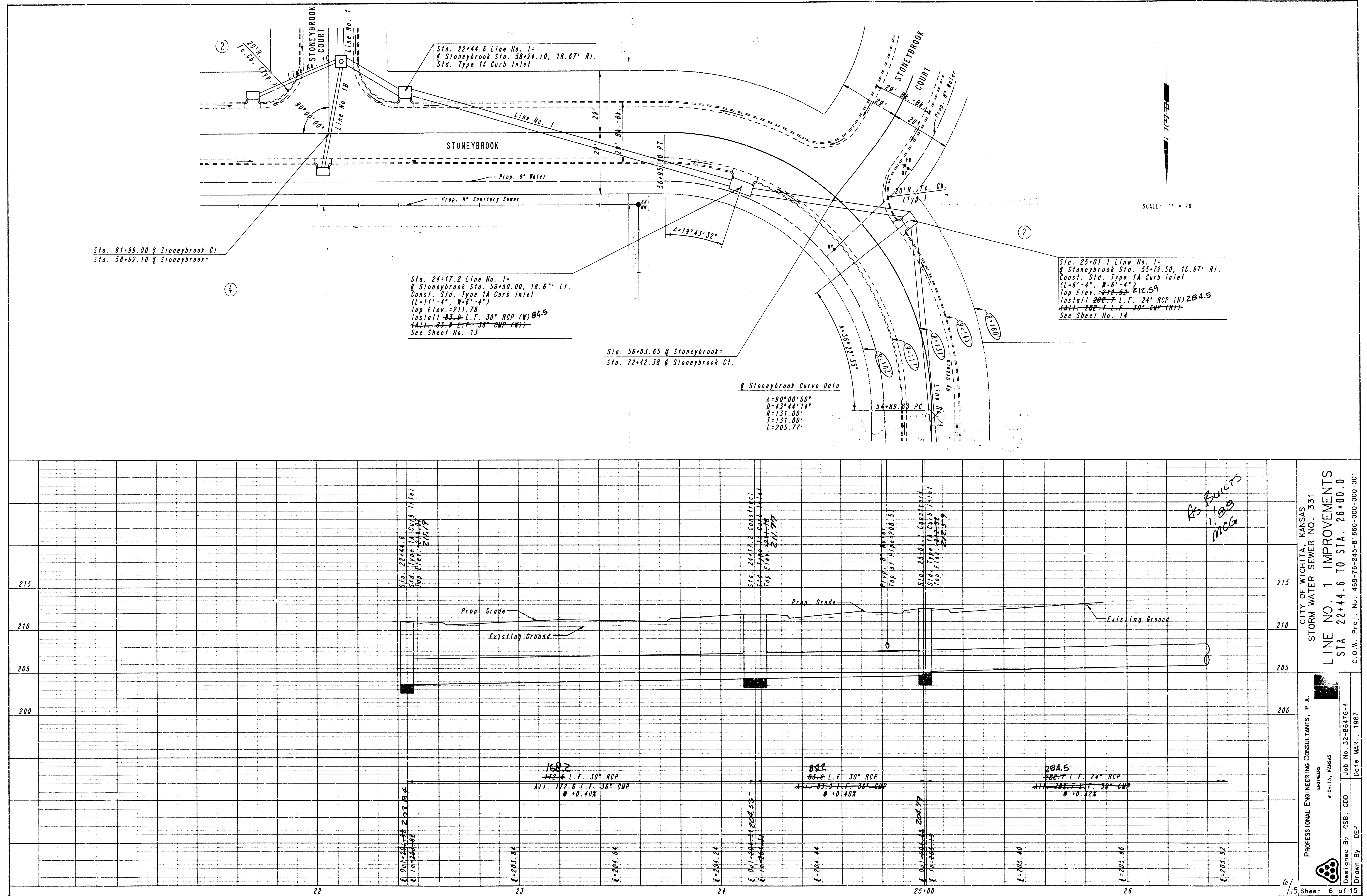
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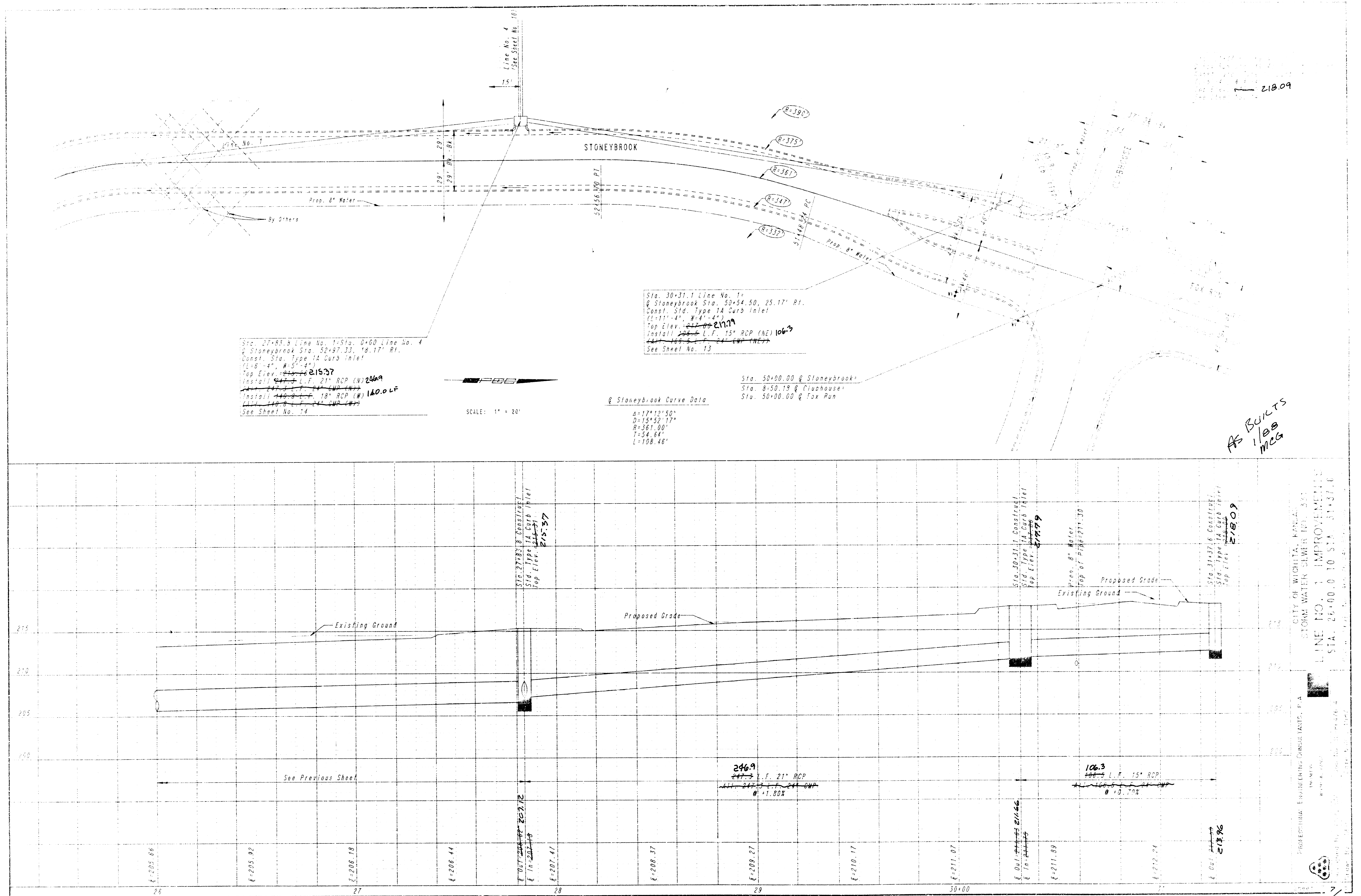
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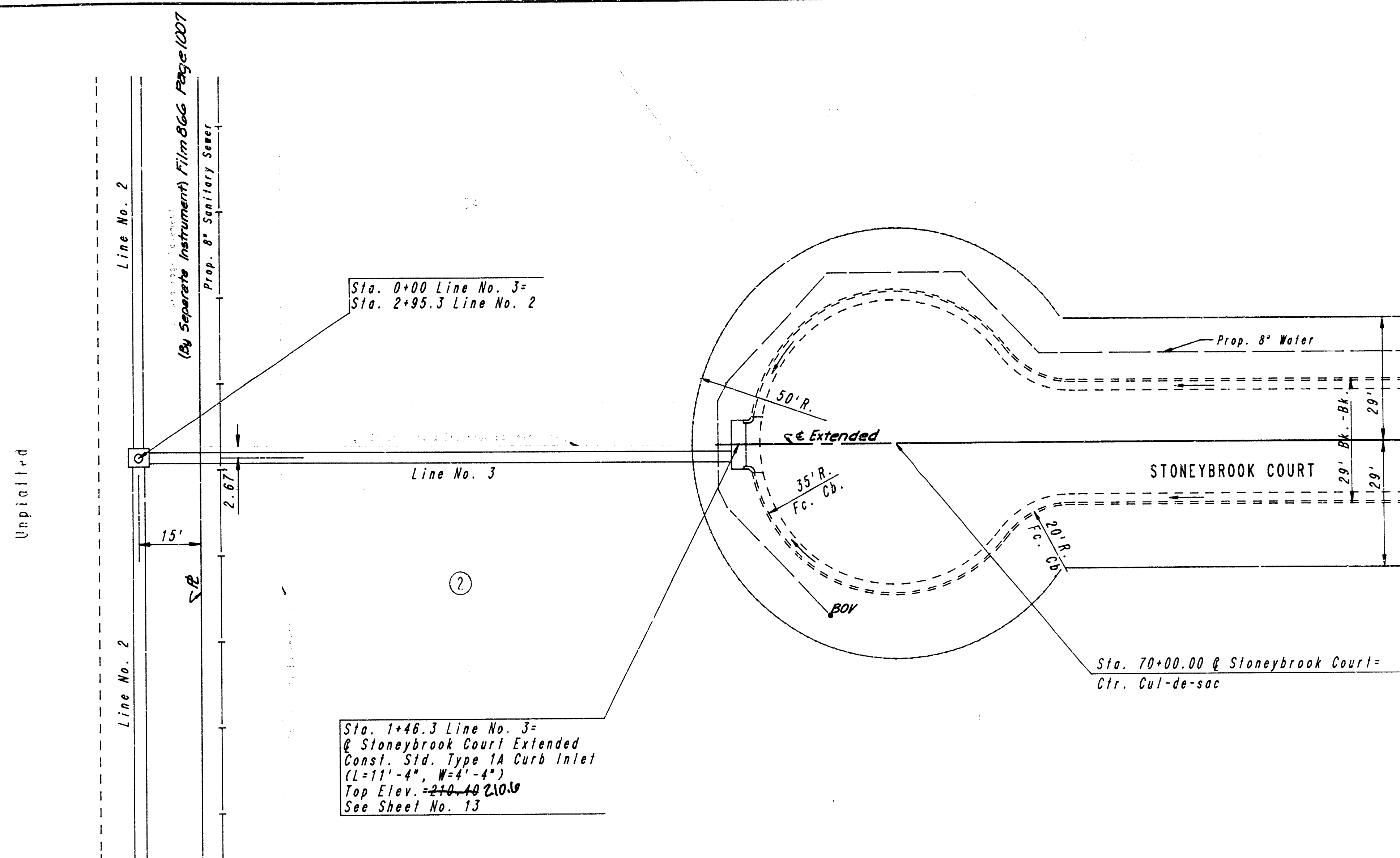
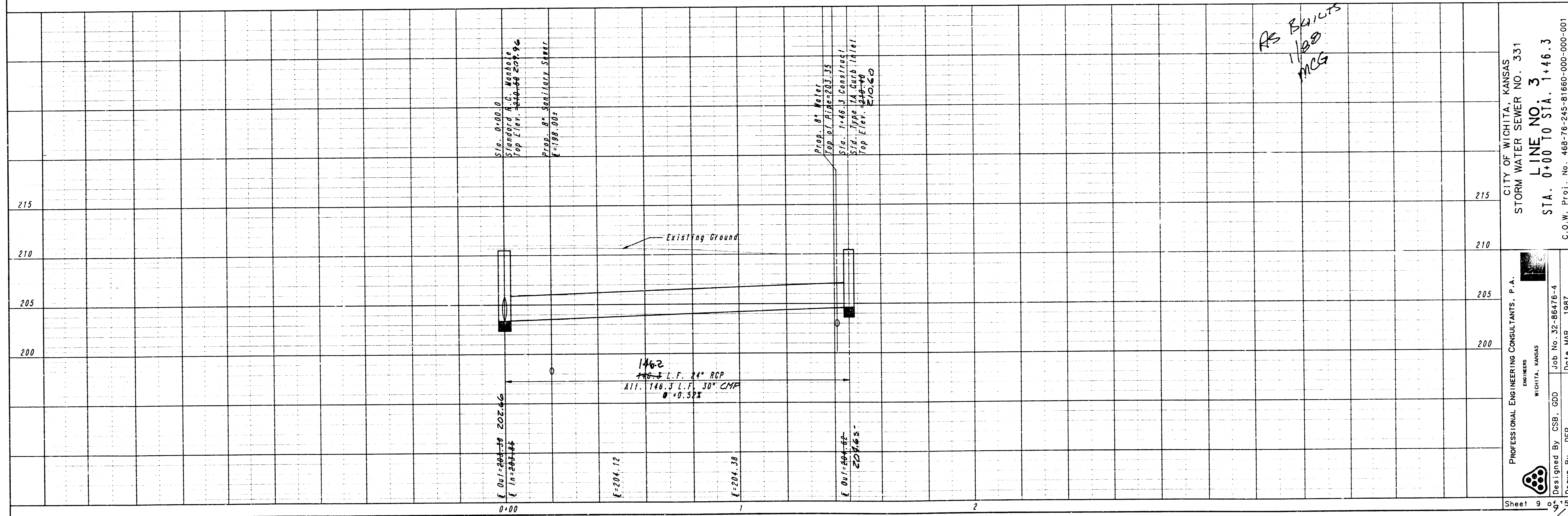


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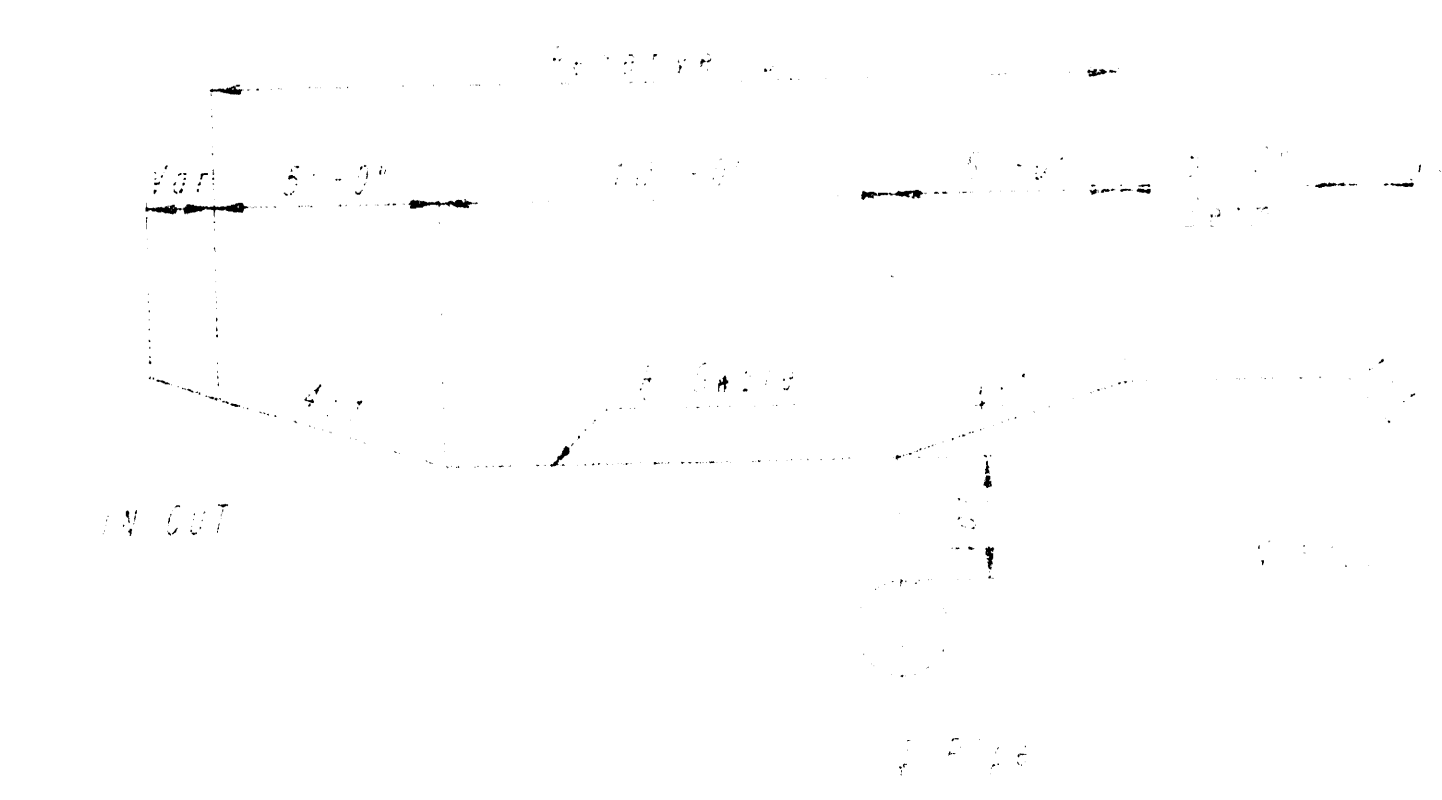
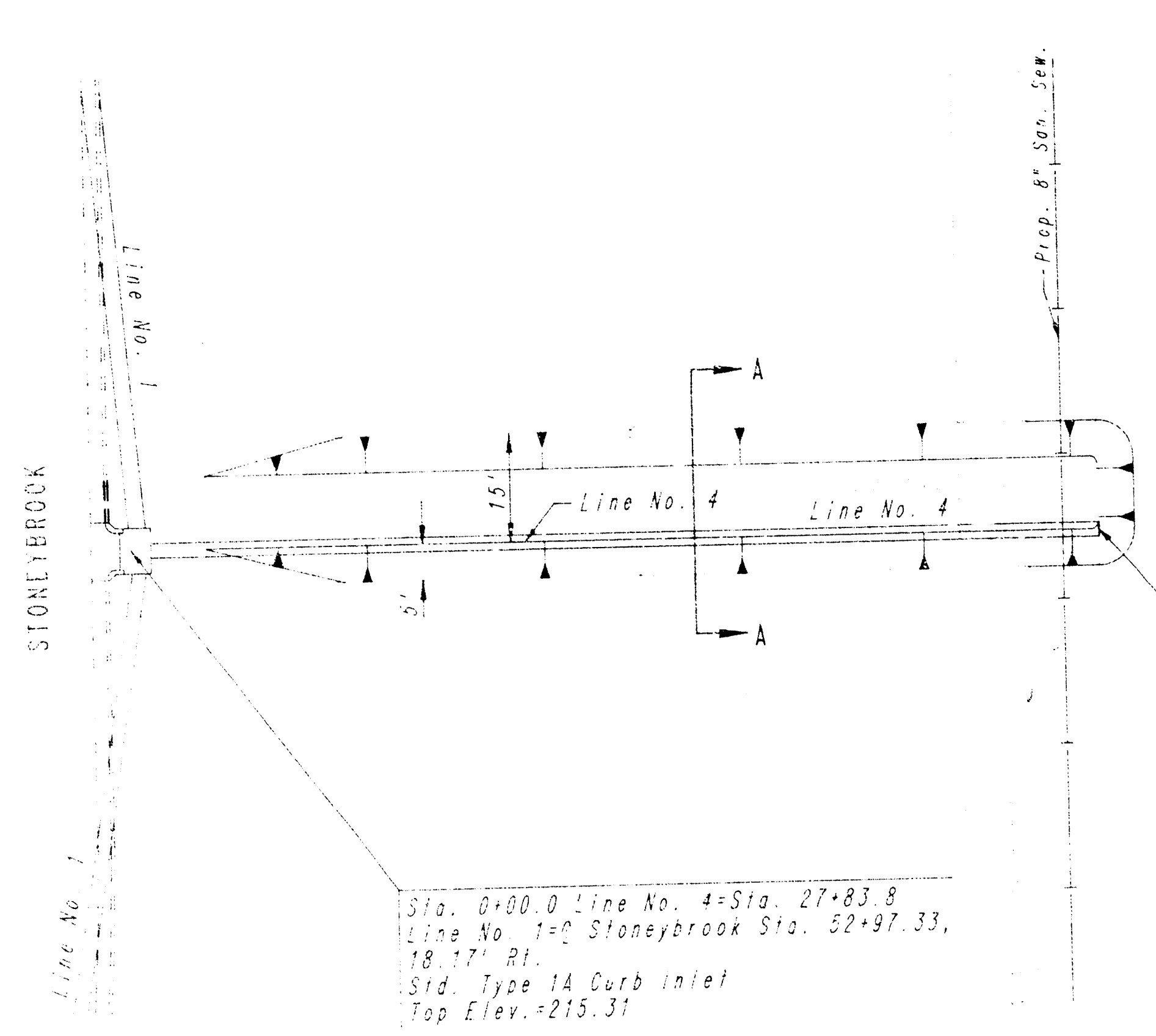




SCALE: 1" = 20'

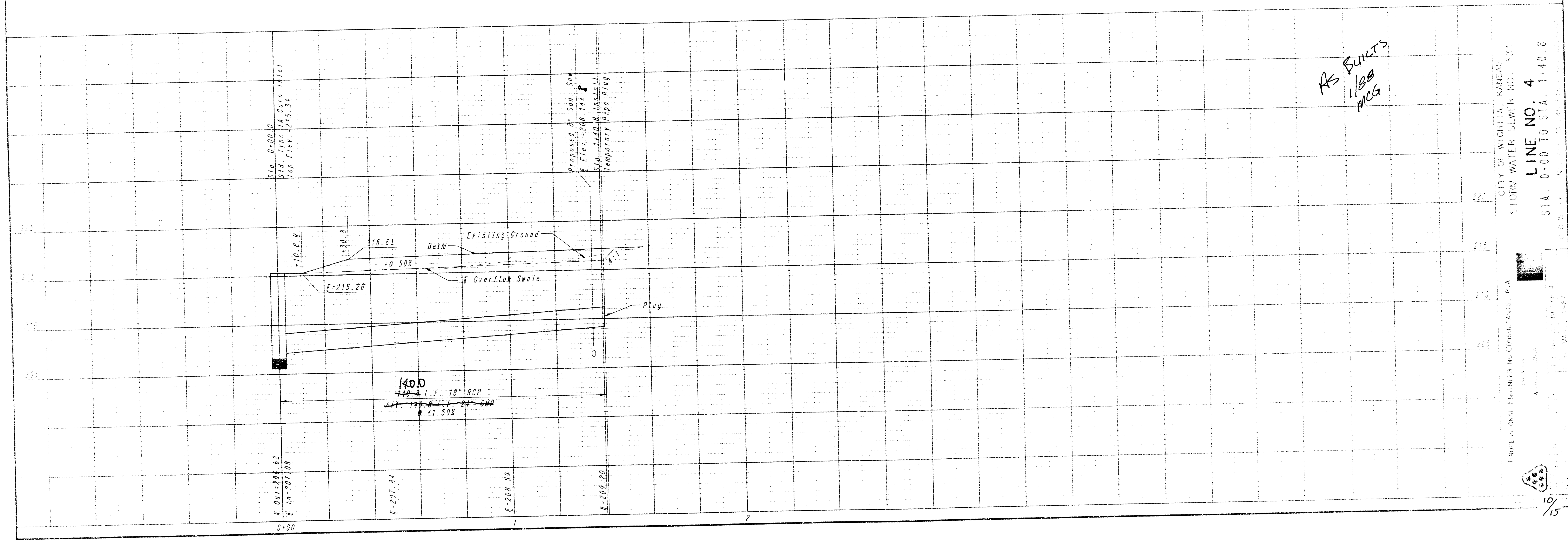
CITY OF WICHITA, KANSAS STORM WATER SEWER NO. 331 LINE NO. 3 STA. 0+00 TO STA. 1+46.3	
PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS	Job No. 32-86476-4 Date MAR., 1987
Designed By CSB, GDD Drawn By DEP	Sheet 9 of 15

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Sta. 0+00.0 Line No. 4=Sta. 27+83.8
Line No. 1=Stonebrook Sta. 22+97.33,
18\"/>

Sta. 1+40.8 Line No. 4
Install temporary pipe plug
Plug shall be subsidiary
to other bid items

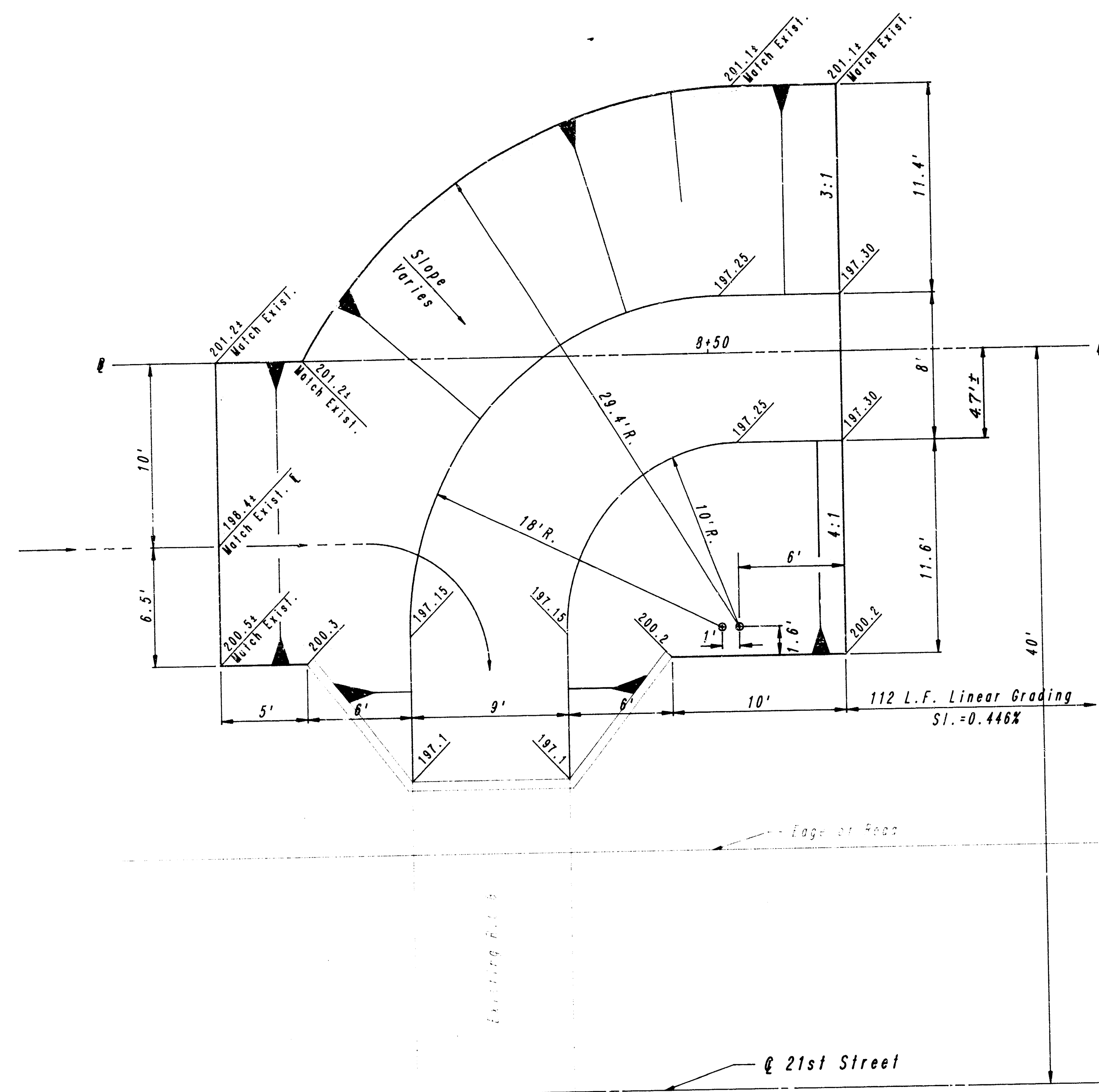


As BUILT
1/88
MCG

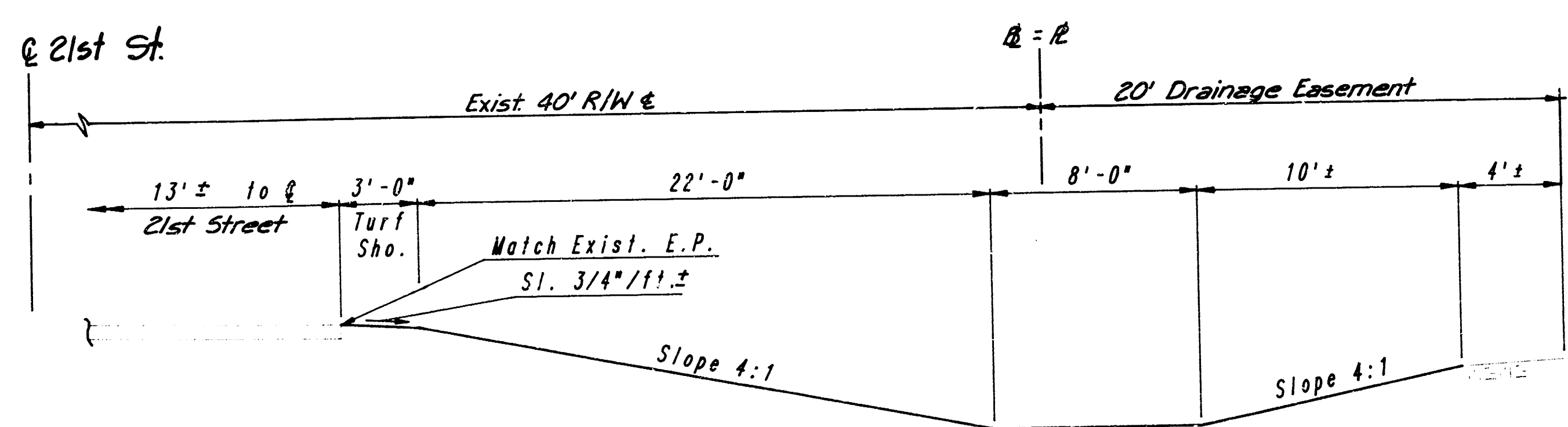
CITY OF WICHITA, KANSAS
STORM WATER SEWER NO. 301
LINE NO. 4
STA. 0+00 TO STA. 1+40.8

PROFESSIONAL ENGINEER CONSULTANTS, P.A.
1101 N. LINCOLN ST., SUITE 100
WICHITA, KANSAS 67202
TEL. 343-1234
FAX 343-1235

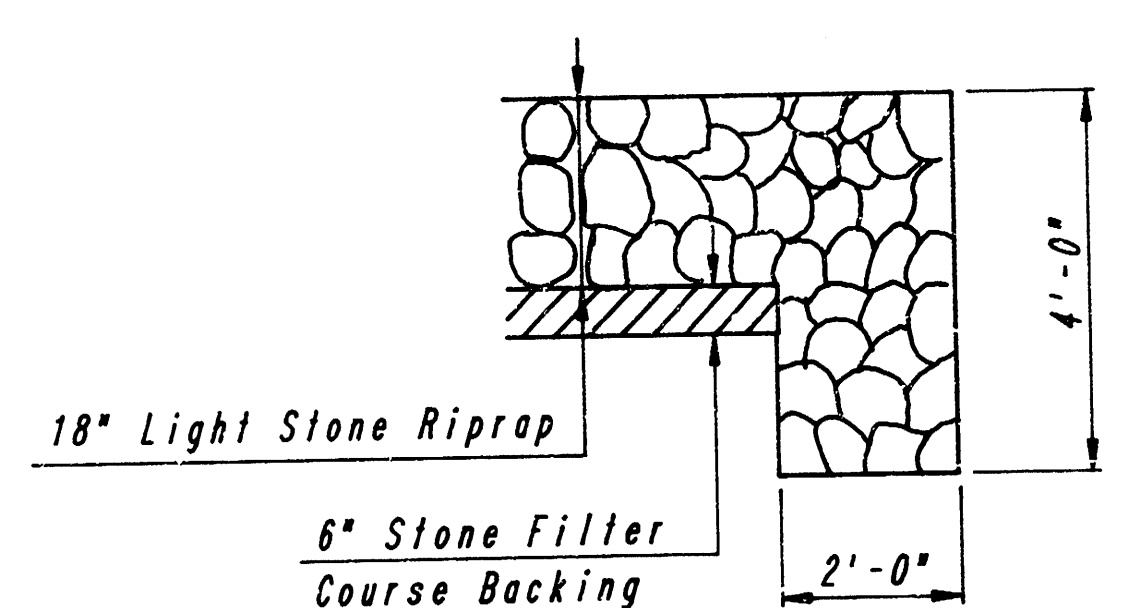
10/15



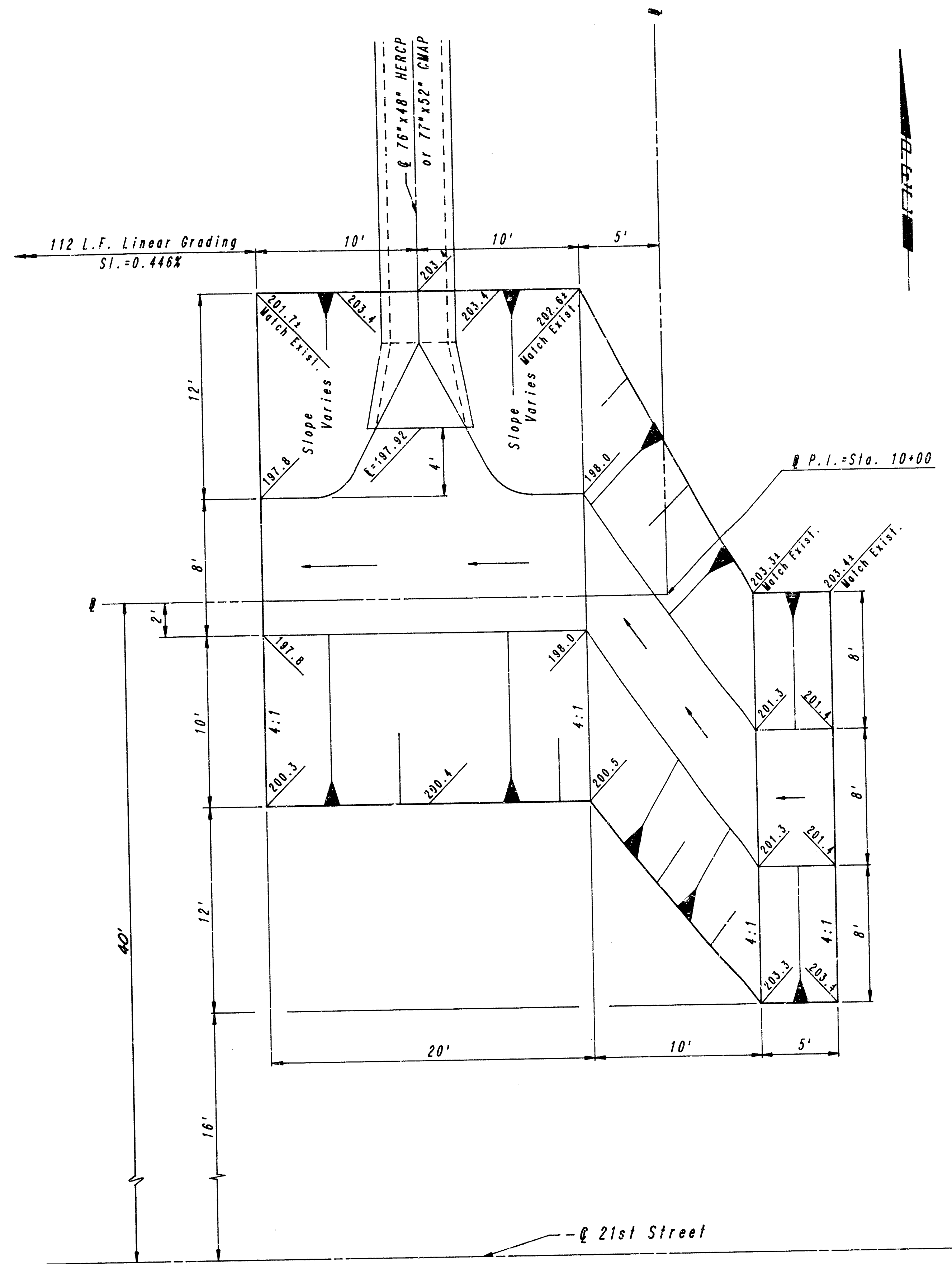
RIPRAP PLAN
SCALE: 1" = 5'



SECTION A-A
See Sheet No. 3



TYPICAL SECTION THRU TOEWALL

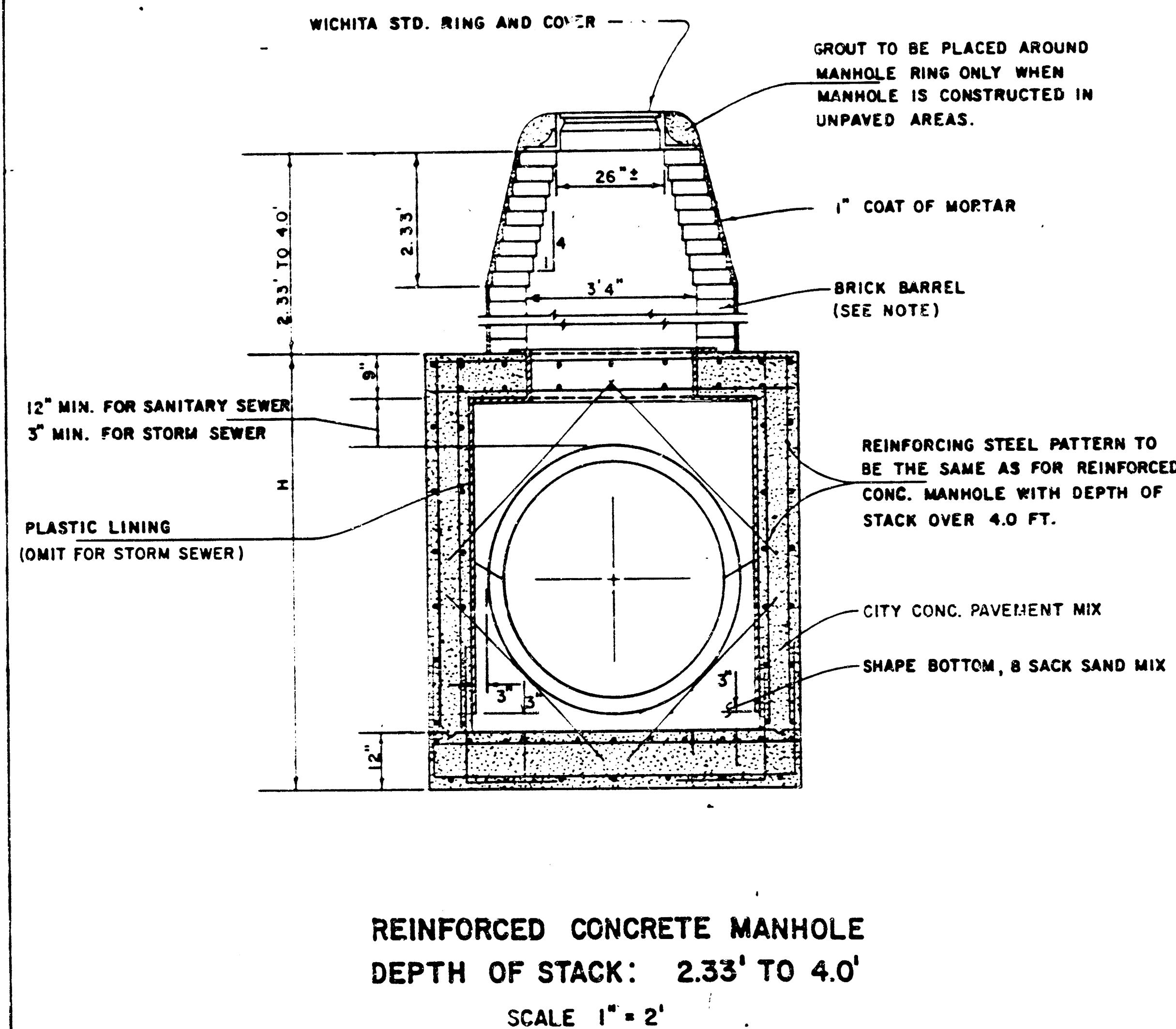
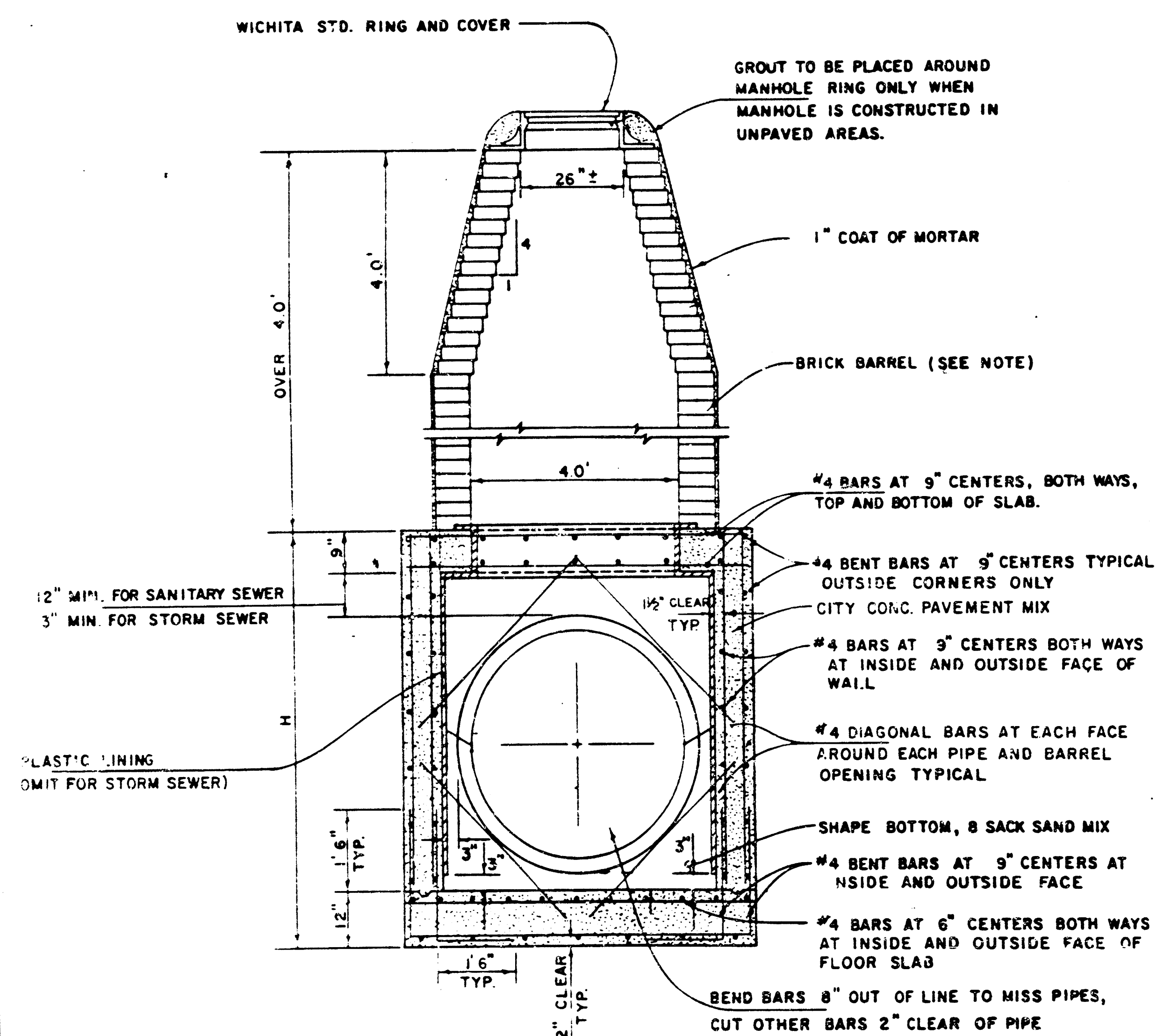
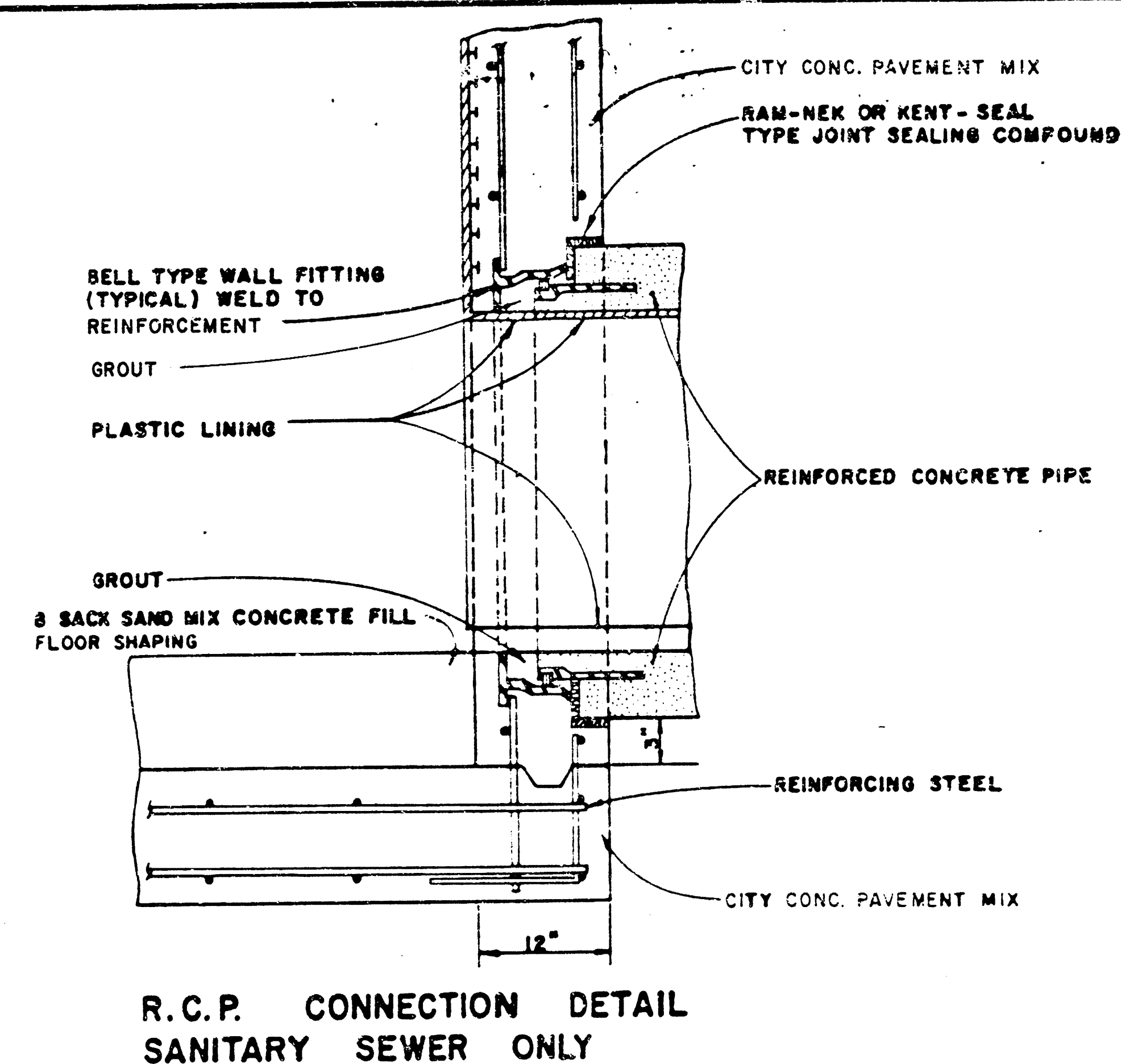
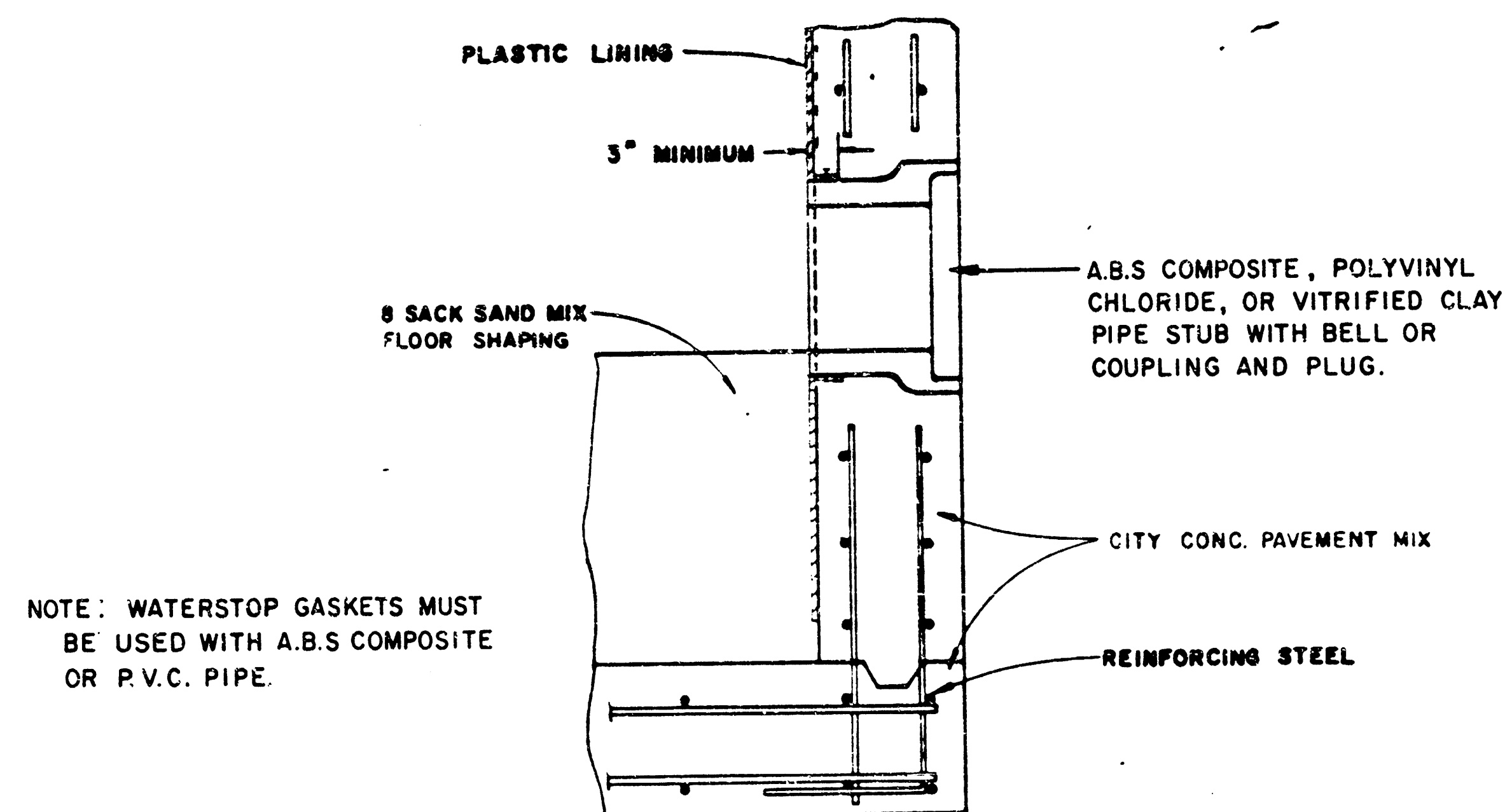
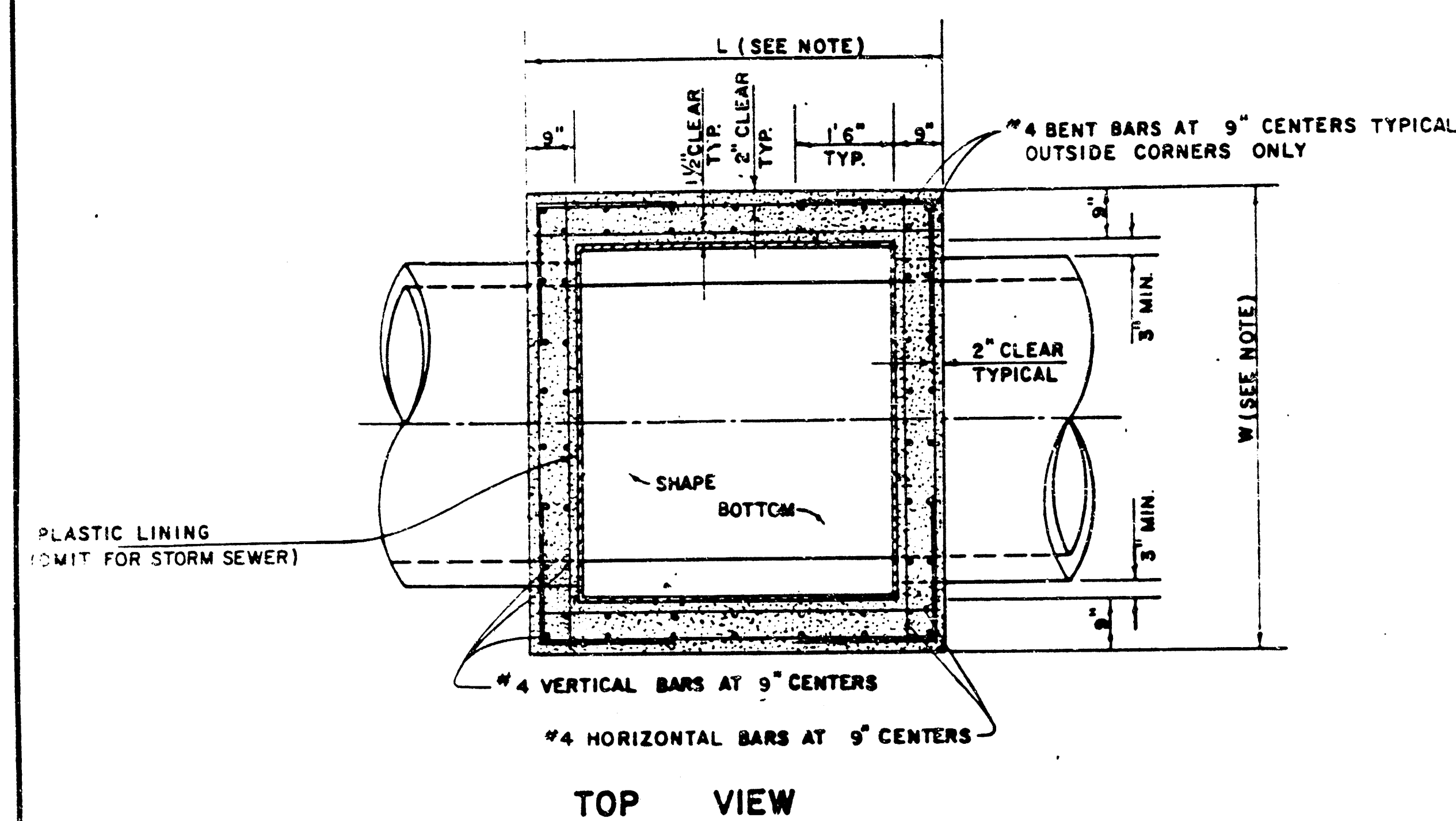


RIPRAP PLAN
SCALE: 1" = 5'

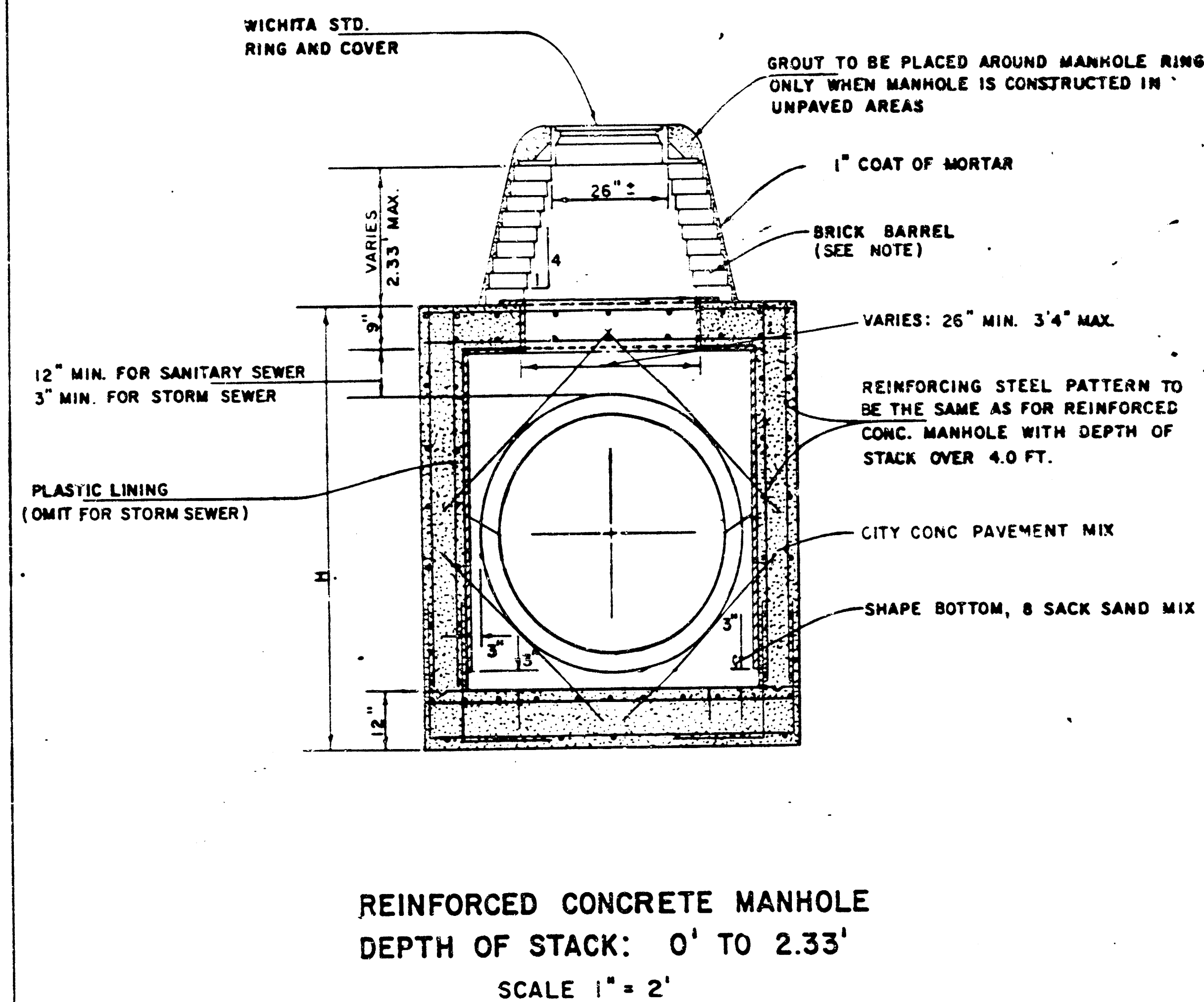
RIPRAP DETAILS

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.			
ENGINEERS			
WICHITA, KANSAS			
Designed by	CSB, GDD	Checked by	
Drawn by	BEP	Date	MAR., 1987
		Job No.	86476-4

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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 WHEN THE BRICK BARRELS ARE OVER 4 FT. IN HEIGHT. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATERTIGHT.



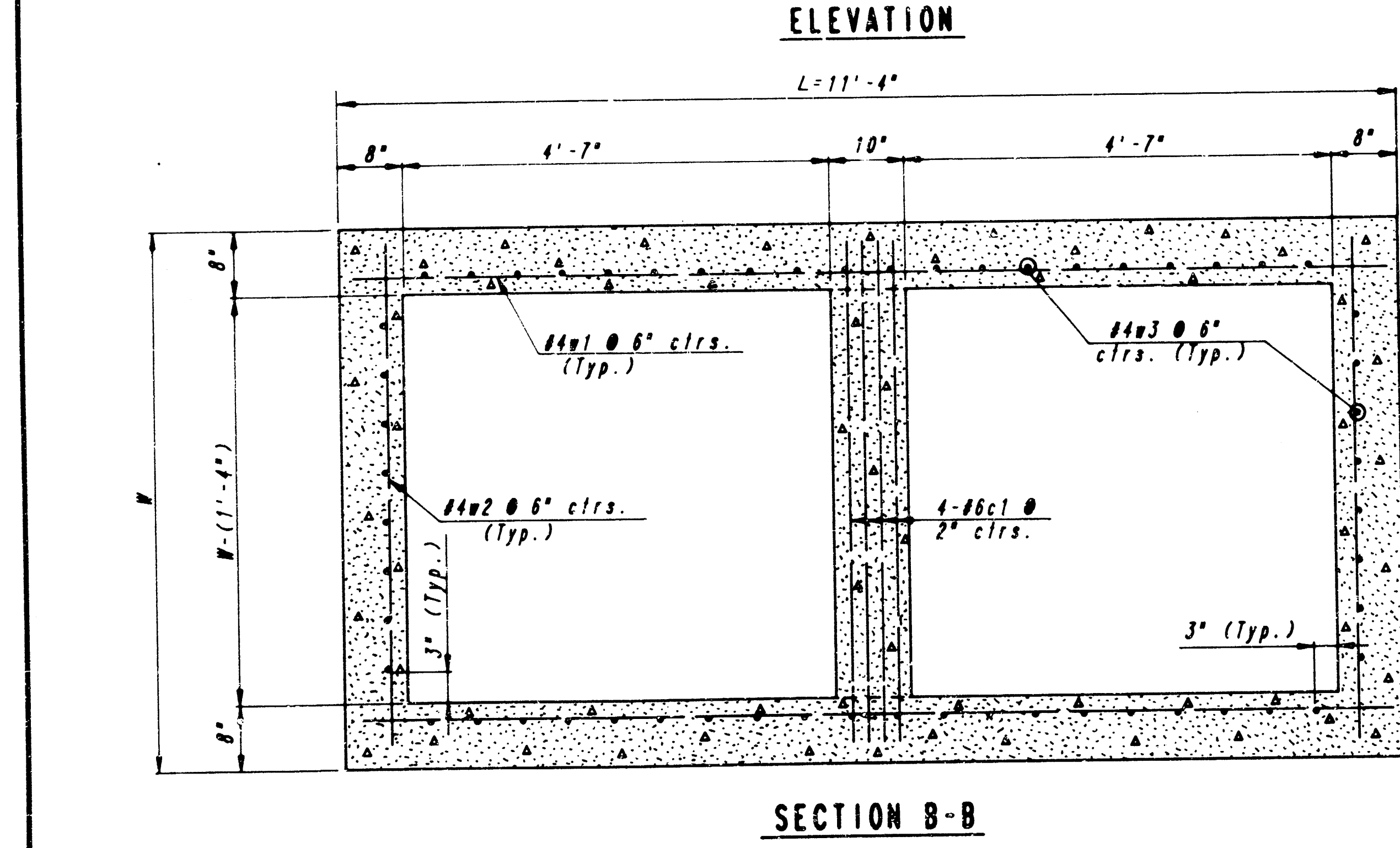
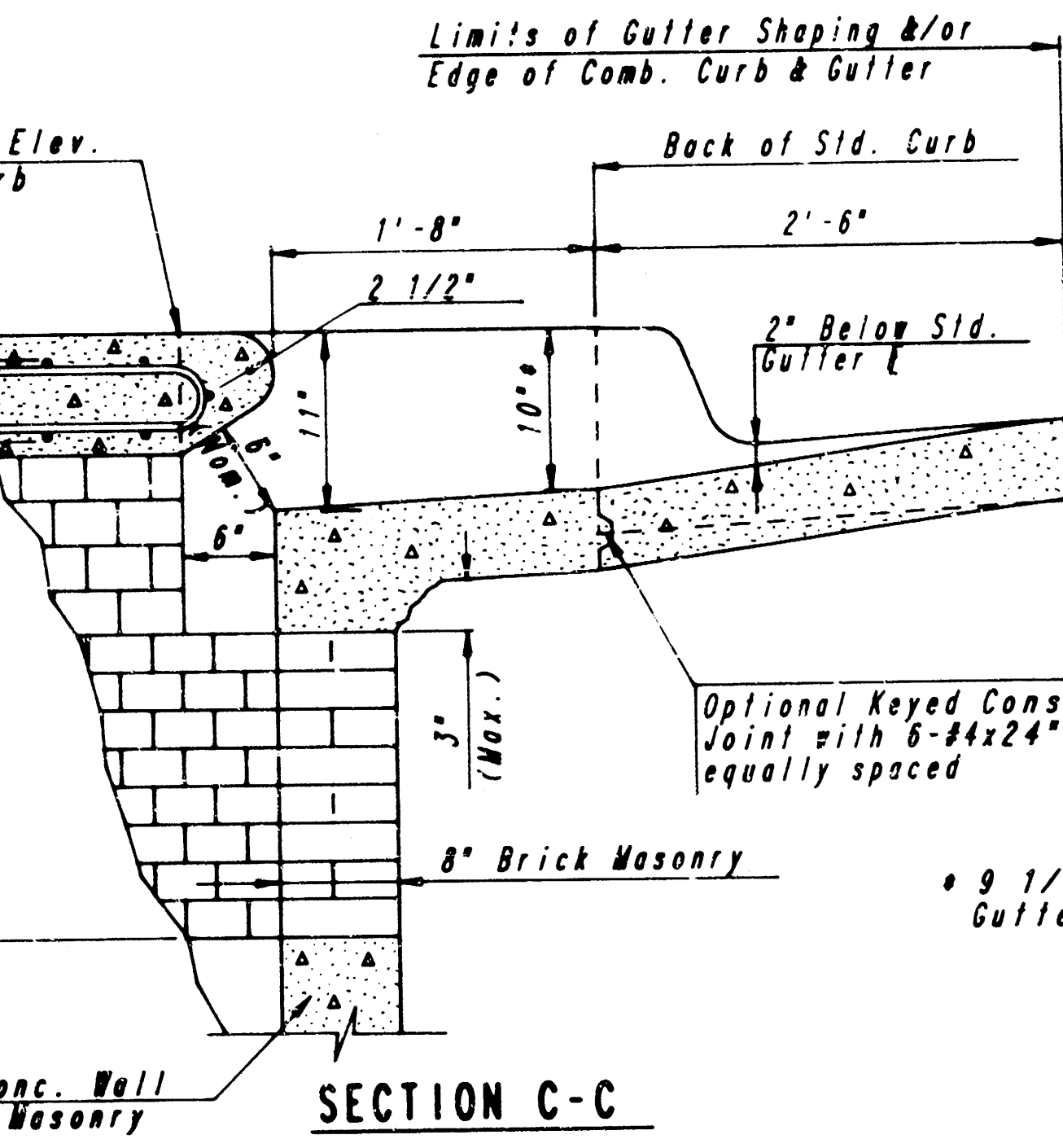
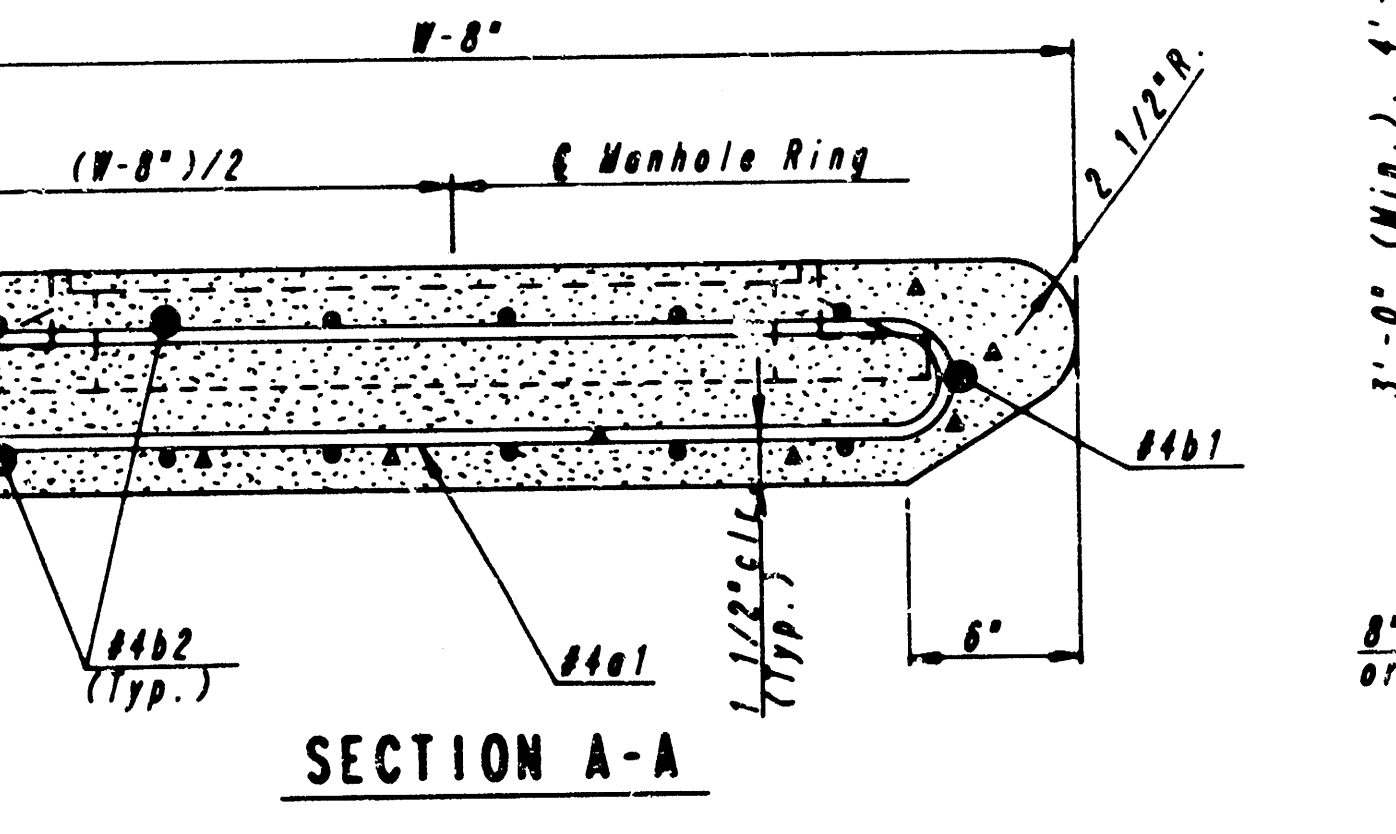
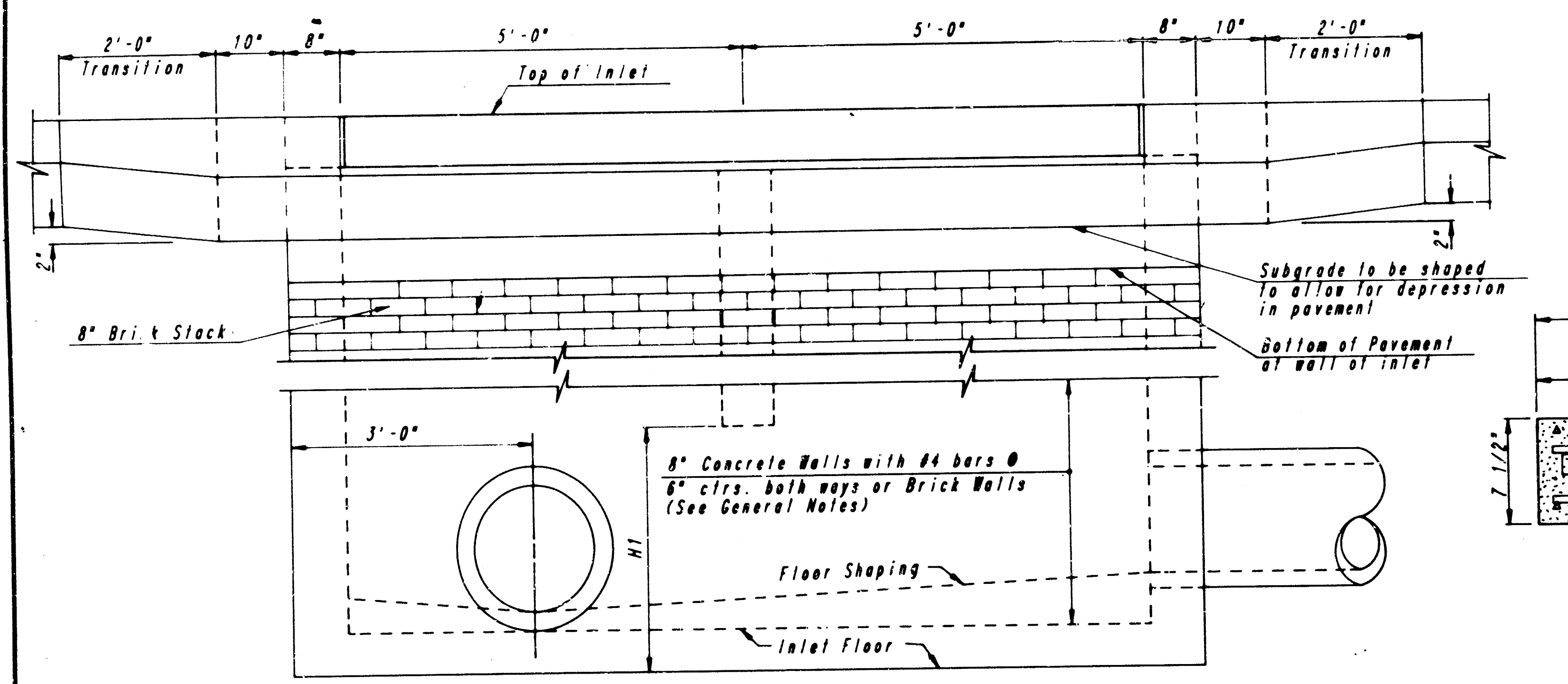
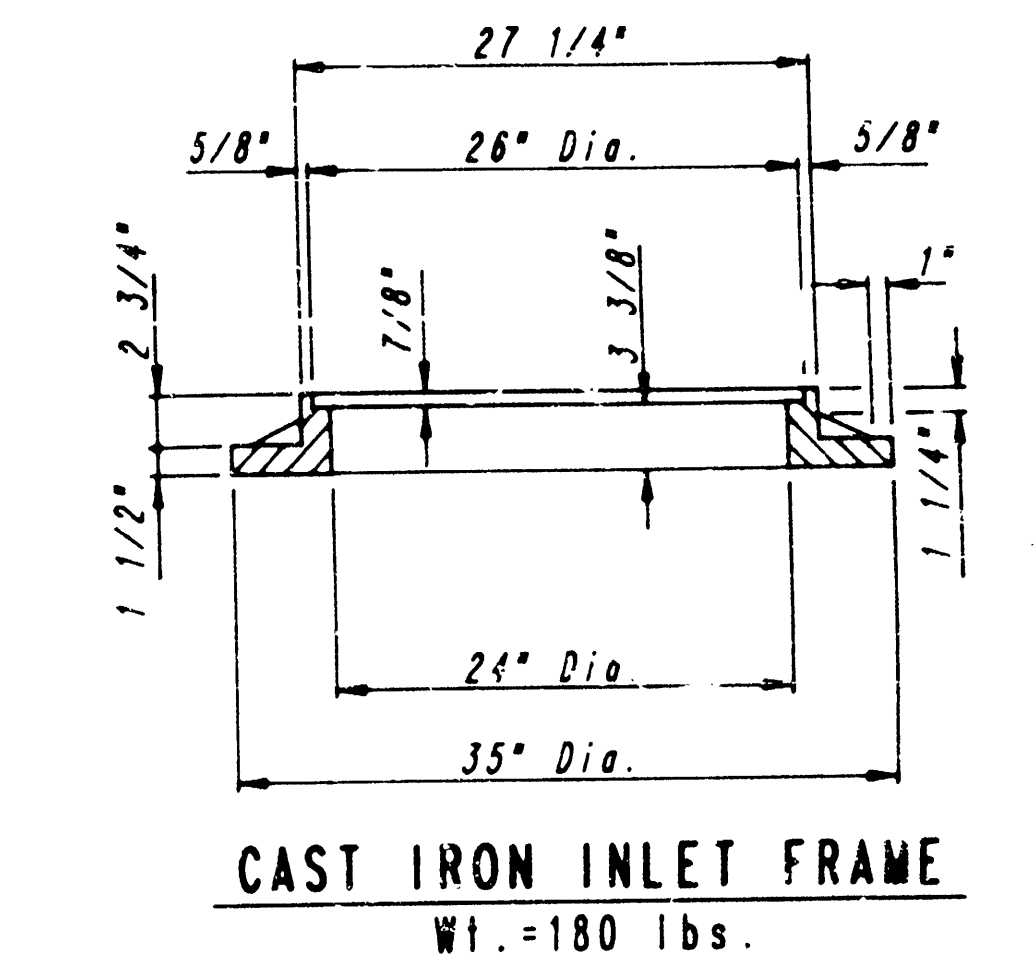
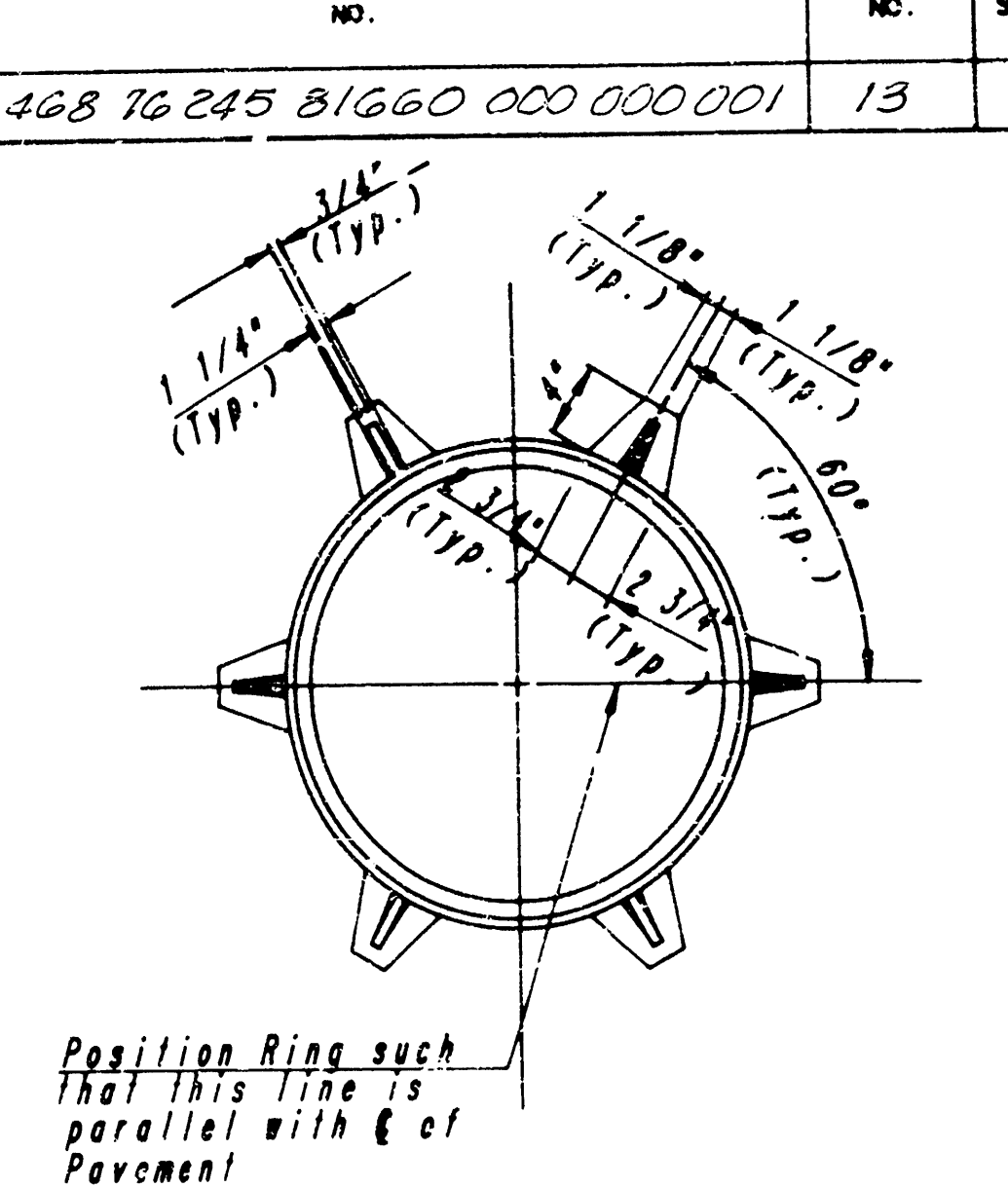
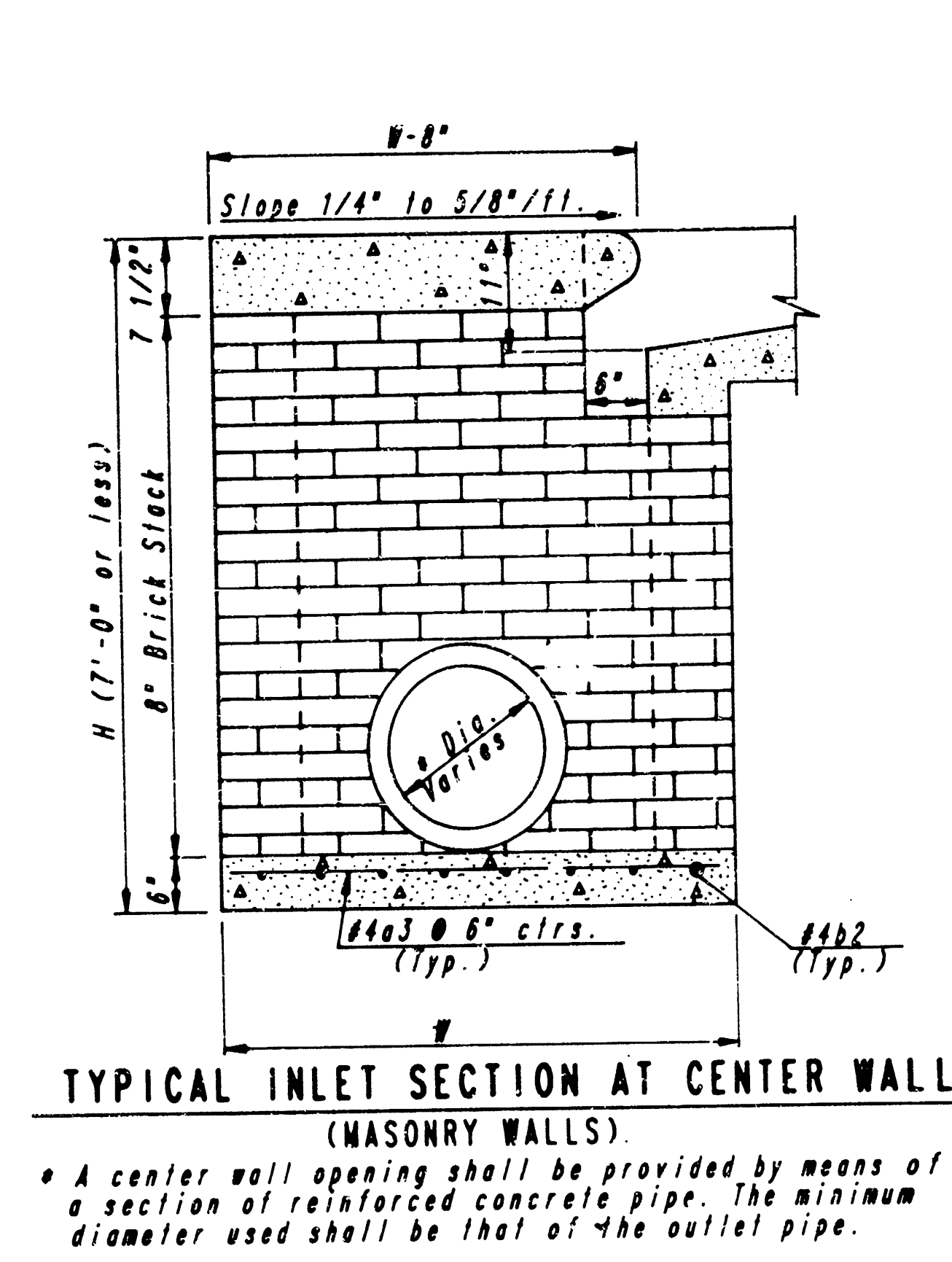
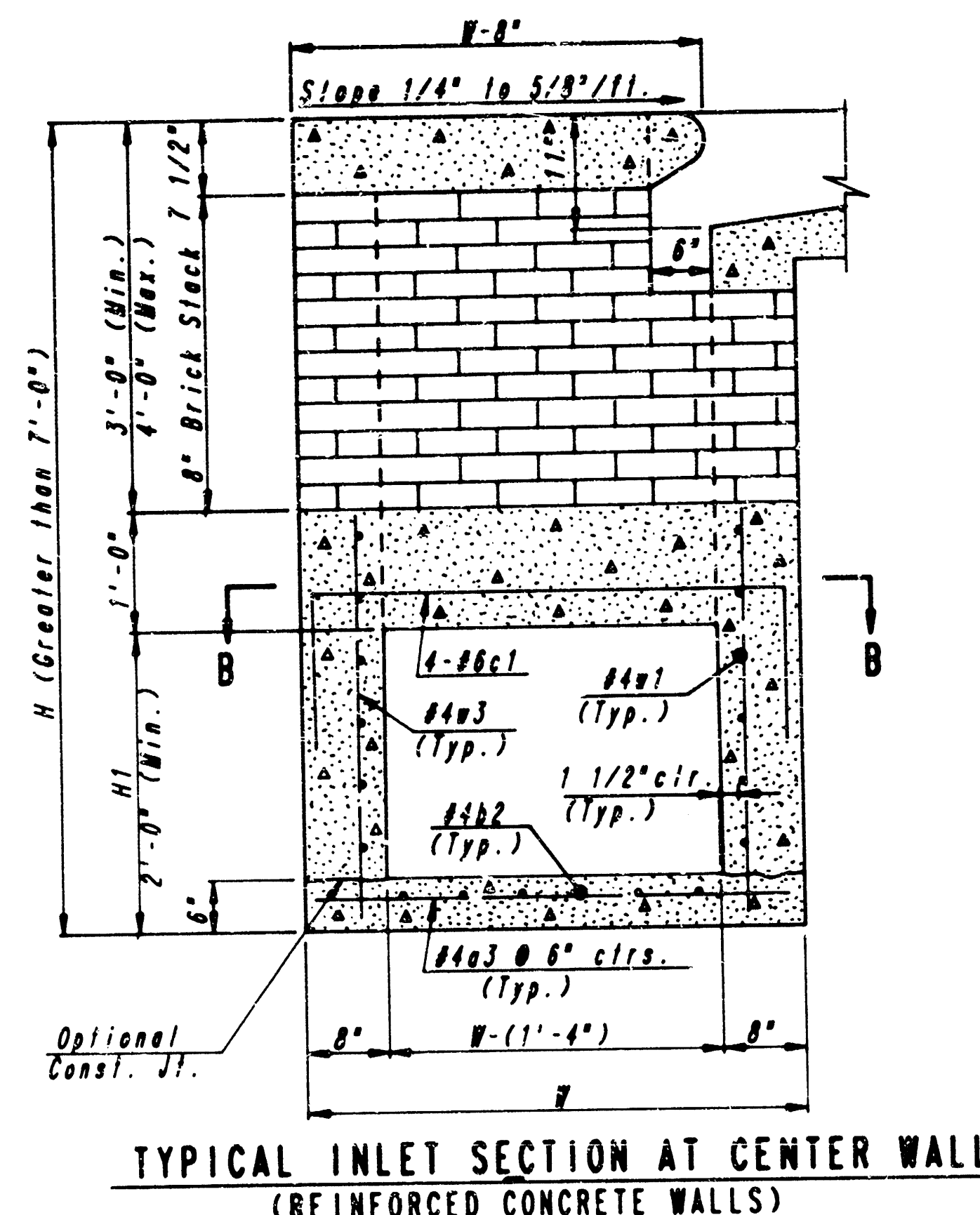
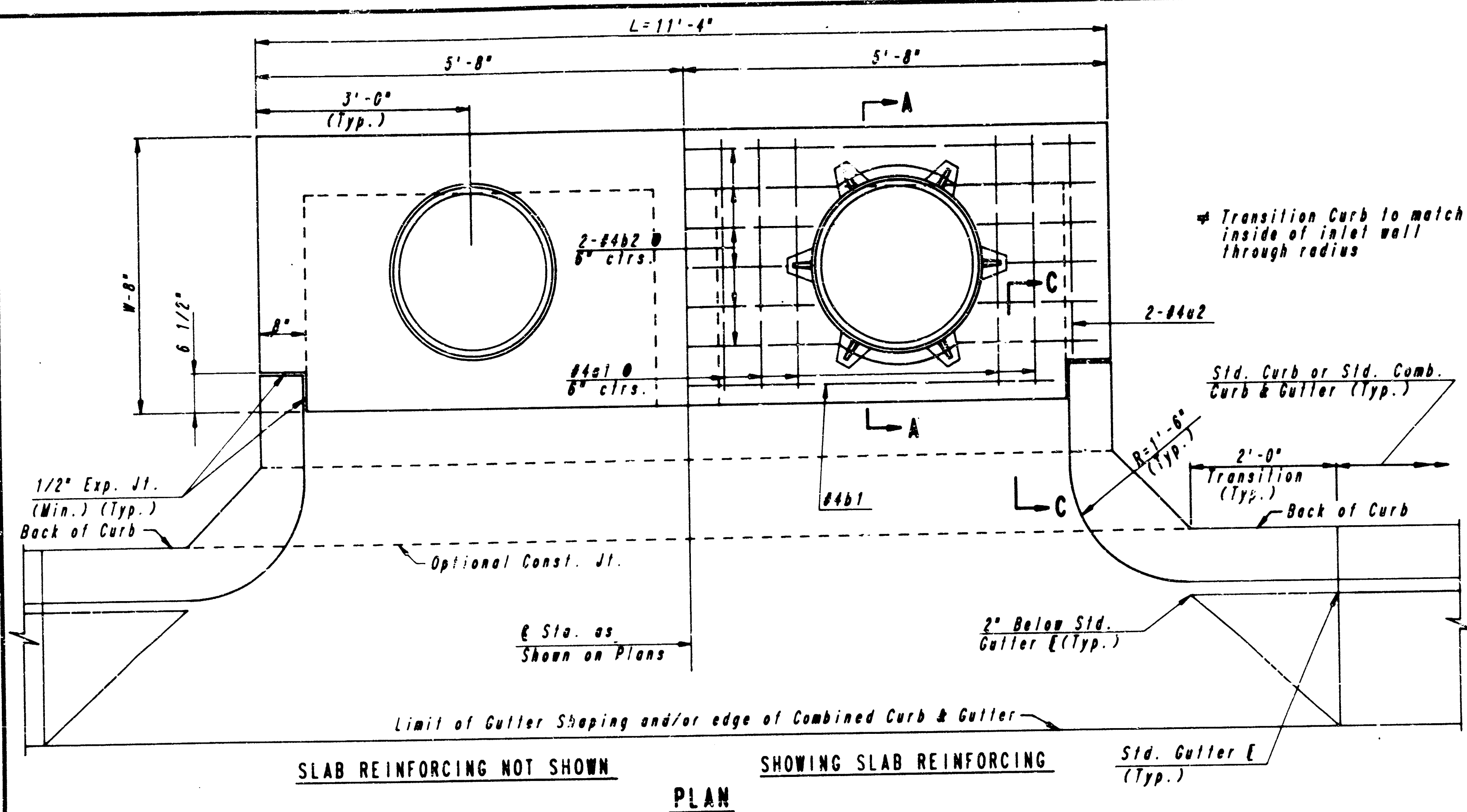
REVISED 1-7-85 Proj. No. 468 76 245 81660 000 000 001

STANDARD DETAILS
REINFORCED CONCRETE MANHOLES

CITY OF WICHITA

FEBRUARY 1984 Sheet No. 12 of 15

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MARK	SIZE	W=4'-4"		W=5'-4"		W=6'-4"		W=7'-4"		W=8'-4"	
		NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
a1	#4	13	6'-7 1/4"	13	8'-7 1/4"	13	10'-7 1/4"	13	12'-7 1/4"	13	14'-7 1/4"
a2	#4	2	6'-0"	2	8'-0"	2	10'-0"	2	12'-0"	2	14'-0"
a3	#4	20	4'-1"	20	5'-1"	20	6'-1"	20	7'-1"	20	8'-1"
b1	#4	1	9'-8"	1	9'-8"	1	9'-8"	1	9'-8"	1	9'-8"
b2	#4	18	11'-1"	24	11'-1"	30	11'-1"	36	11'-1"	42	11'-1"

MARK	SIZE	W=4'-4"		W=5'-4"		W=6'-4"		W=7'-4"		W=8'-4"	
		NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
c1	#6	4	8'-1"	4	7'-1"	4	8'-1"	4	9'-1"	4	10'-1"
w1	#4	1	11'-1"	1	11'-1"	1	11'-1"	1	11'-1"	1	11'-1"
w2	#4	1	4'-1"	1	5'-1"	1	6'-1"	1	7'-1"	1	8'-1"
w3	#4	1	11'-1"	1	11'-1"	1	11'-1"	1	11'-1"	1	11'-1"

* Field bend or cut Reinforcing as required for clearance
 ① 4(H1-6") + 4 (H1-6") Rounded down to nearest 0.5'
 ② 40 + 4(W - 16") ③ H1 + (9")

GENERAL NOTES

THE CONTRACTOR WILL BE REQUIRED TO CONSTRUCT 8" BRICK MASONRY WALLS BETWEEN THE CONCRETE INLET BASE AND TOP OF THIS INLET WHEN W=6'-4" OR LESS AND W=7'-4" OR LESS WHEN W IS GREATER THAN 6'-4" AND W IS LESS THAN 7'-4". THE OUTSIDE WALLS BELOW THE BRICK STACK SHALL BE REINFORCED CONCRETE CONSTRUCTION AND THE CENTER WALL SHALL BE OF MASONRY CONSTRUCTION AS SHOWN FOR THE MASONRY WALL OPTION.

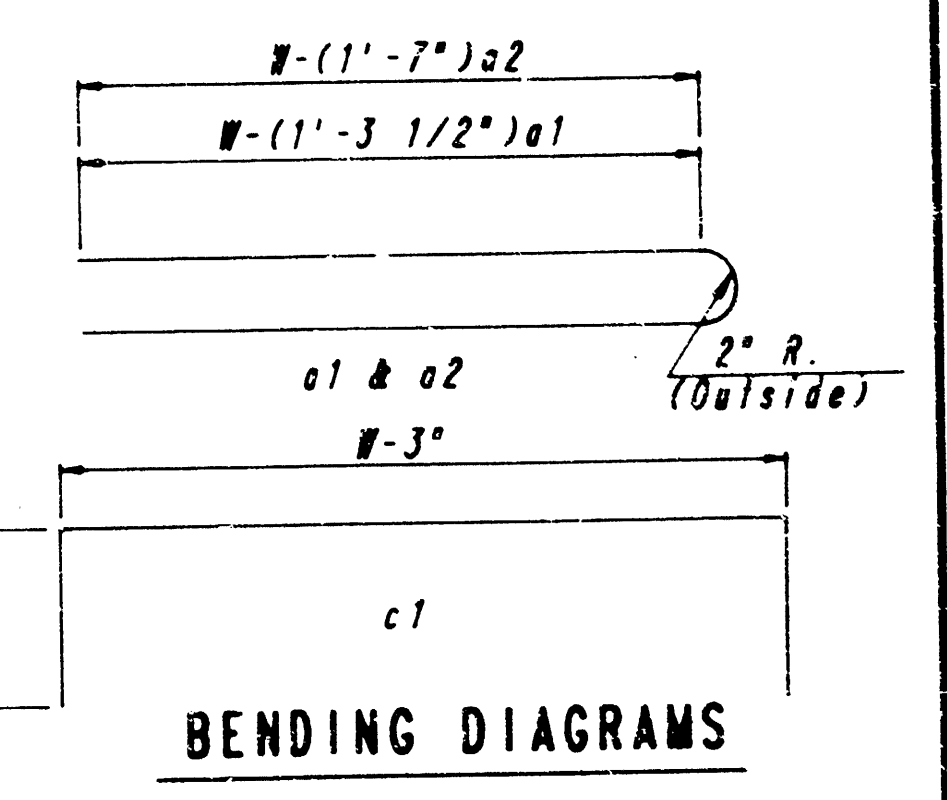
INLET INVERT SHALL BE SHAPED WITH A SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF-CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.

CONCRETE SHALL BE CITY OF WICHITA STANDARD PAVING MIX. ALL EXPOSED EDGES SHALL BE FINISHED WITH AN EDGING TOOL. INLET TOPS ARE TO BE PLACED ON A THIN MORTAR CUSHION TO INSURE FULL SUPPORT ALONG BRICK WALLS. CONCRETE TOPS MAY BE PRECAST OR CAST IN PLACE. INLET TOPS SHALL BE NOTCHED OUT AS INDICATED TO FACILITATE CONSTRUCTION OF CURB.

UNLESS OTHERWISE NOTED, ALL BARS ARE #4 OR 8" MAX. CENTERS SHALL HAVE A MINIMUM CLEARANCE OF 1-1/2". BARS SHALL BE FIELD BENT OR CUT TO CLEAR MANHOLE RINGS AND PIPE OPENINGS.

THE EDGES OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.

ADDITIONAL CURB AND/OR CURB AND CUTTER CONSTRUCTION NECESSARY TO CONNECT SET-BACK INLET TO PAVEMENT WILL BE PAID FOR AT THE UNIT PRICE BID PER EACH FOR INLET HOODUP.

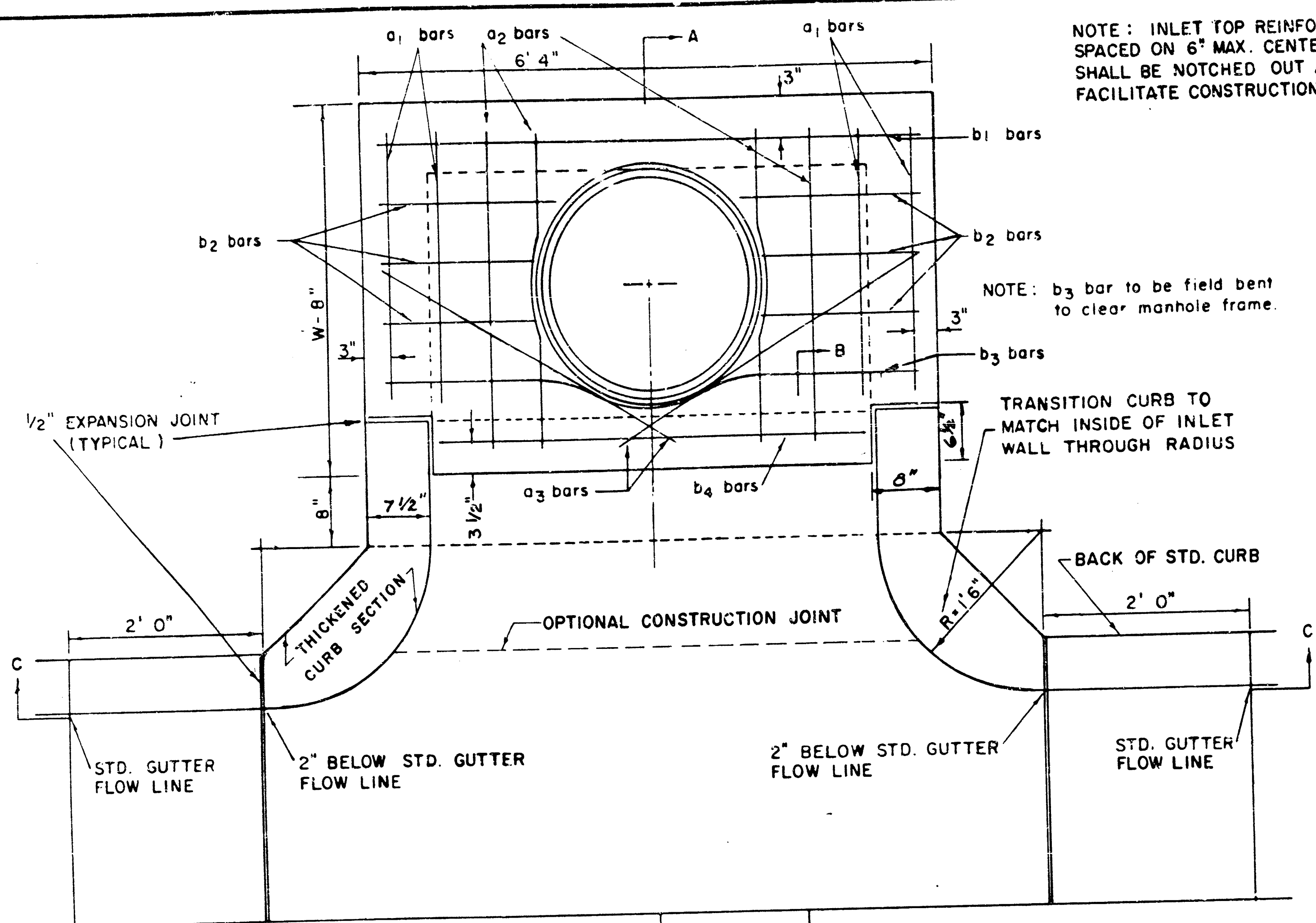


CITY OF WICHITA, KANSAS

DETAIL STANDARD TYPE 1A CURB INLET
 INLET OPENING - 6" X 10" - 6" (L=11'-4")

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
 ENGINEERS
 WICHITA, KANSAS

Designed by: _____ Checked by: _____
 Drawn by: _____ Date: Mar, 1987 Job No. 86476-B



PLAN

STEEL SCHEDULE

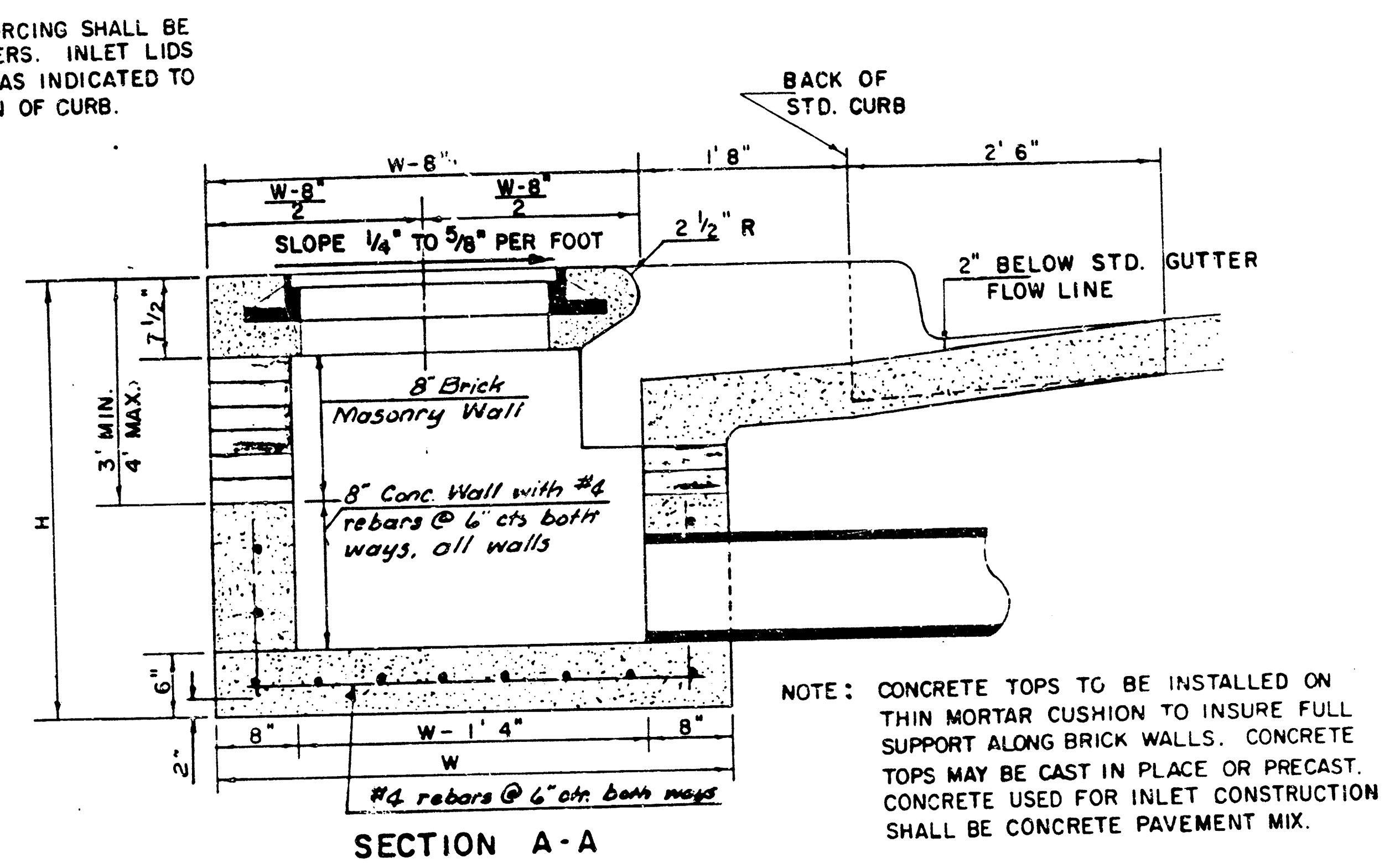
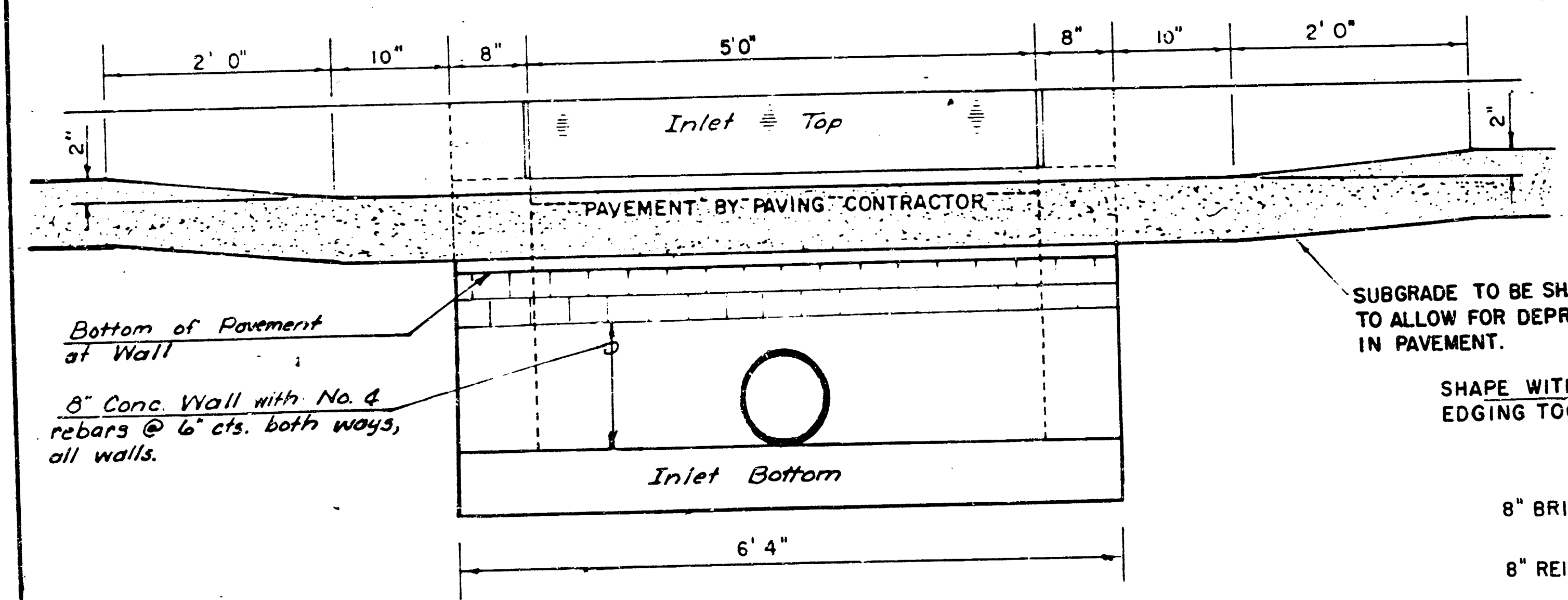
BAR	a ₁	a ₂	a ₃	b ₁	b ₂	b ₃	b ₄	WT. LBS.
NUMBER	4	4	2	1	3	5	7	
SIZE	#4	#4	#4	#4	#4	#4	#4	
W=4'4"	5'7"	6'7"	4'0"	6'1"	-	-	-	60±
W=5'4"	7'7"	8'7"	5'0"	6'1"	-	-	-	81±
W=6'4"	9'7"	10'7"	6'0"	6'1"	-	-	-	101±
W=7'4"	11'7"	12'7"	7'0"	6'1"	-	-	-	121±
W=8'4"	13'7"	14'7"	8'0"	6'1"	-	-	-	141±

* NOTE: a₃ BARS TO BE PLACED APPROX. 2" BELOW TOP OF INLET COVER

BENDING DIAGRAM

STANDARD CURB INLET PRECAST TOPS

W	PRE-CAST TOP SIZE	PIPE SIZE	CY. YD. CONC.
4' 4"	3' 8" x 6' 4" x 7 1/2"	21" & SMALLER	0.38 ±
5' 4"	4' 8" x 6' 4" x 7 1/2"	24" & 30"	0.51 ±
6' 4"	5' 8" x 6' 4" x 7 1/2"	36" & 42"	0.64 ±
7' 4"	6' 8" x 6' 4" x 7 1/2"	48" & 54"	0.77 ±
8' 4"	7' 8" x 6' 4" x 7 1/2"	60" & 66"	0.90 ±

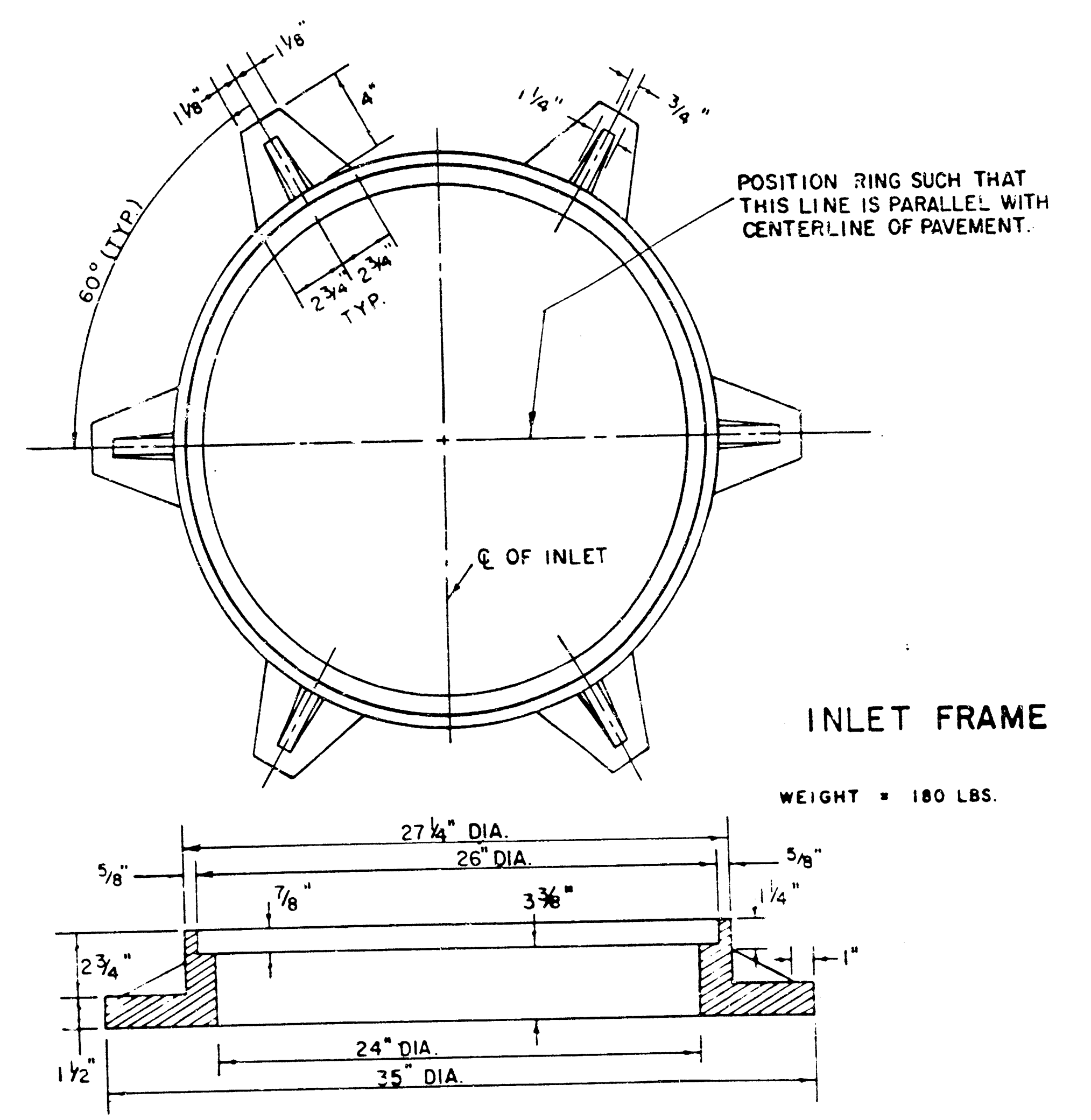
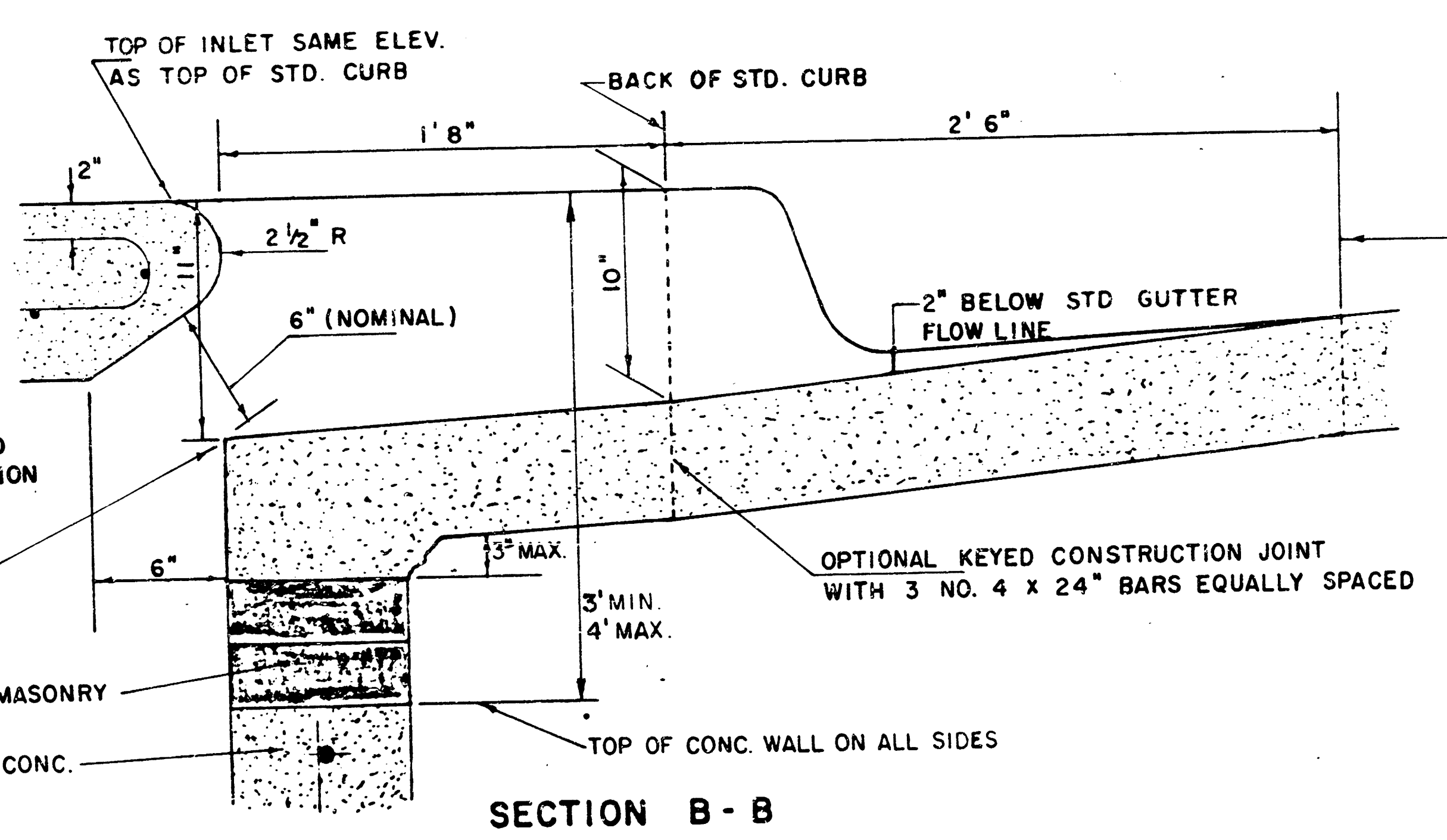


NOTE: CONTRACTOR SHALL HAVE THE OPTION OF CONSTRUCTING 8" BRICK MASONRY WALLS BETWEEN THE CONCRETE INLET BASE AND TOP ON THIS INLET WHEN W = 6'4" AND H = 7'0" OR LESS.

ADDITIONAL CURB AND GUTTER CONSTRUCTION NECESSARY TO CONNECT SET-BACK INLET TO PAVEMENT WILL BE PAID FOR AT THE UNIT PRICE BID FOR EACH INLET HOOKUP.

INLET INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF-CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.

THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.



SEE CITY OF WICHITA STANDARD MANHOLE FRAME AND COVER DETAIL SHEET FOR COVER DETAILS TO BE USED WITH INLET FRAME.

REVISED 12-21-1984 Proj. No. 468 76 245 81640 000 000 001

DETAIL STANDARD TYPE IA CURB INLET

CITY OF WICHITA, KANSAS

INLET OPENING = 6" x 5'0"

JUNE 1984 Sheet No. 14 of 15

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MANHOLE FRAME AND COVER DETAIL

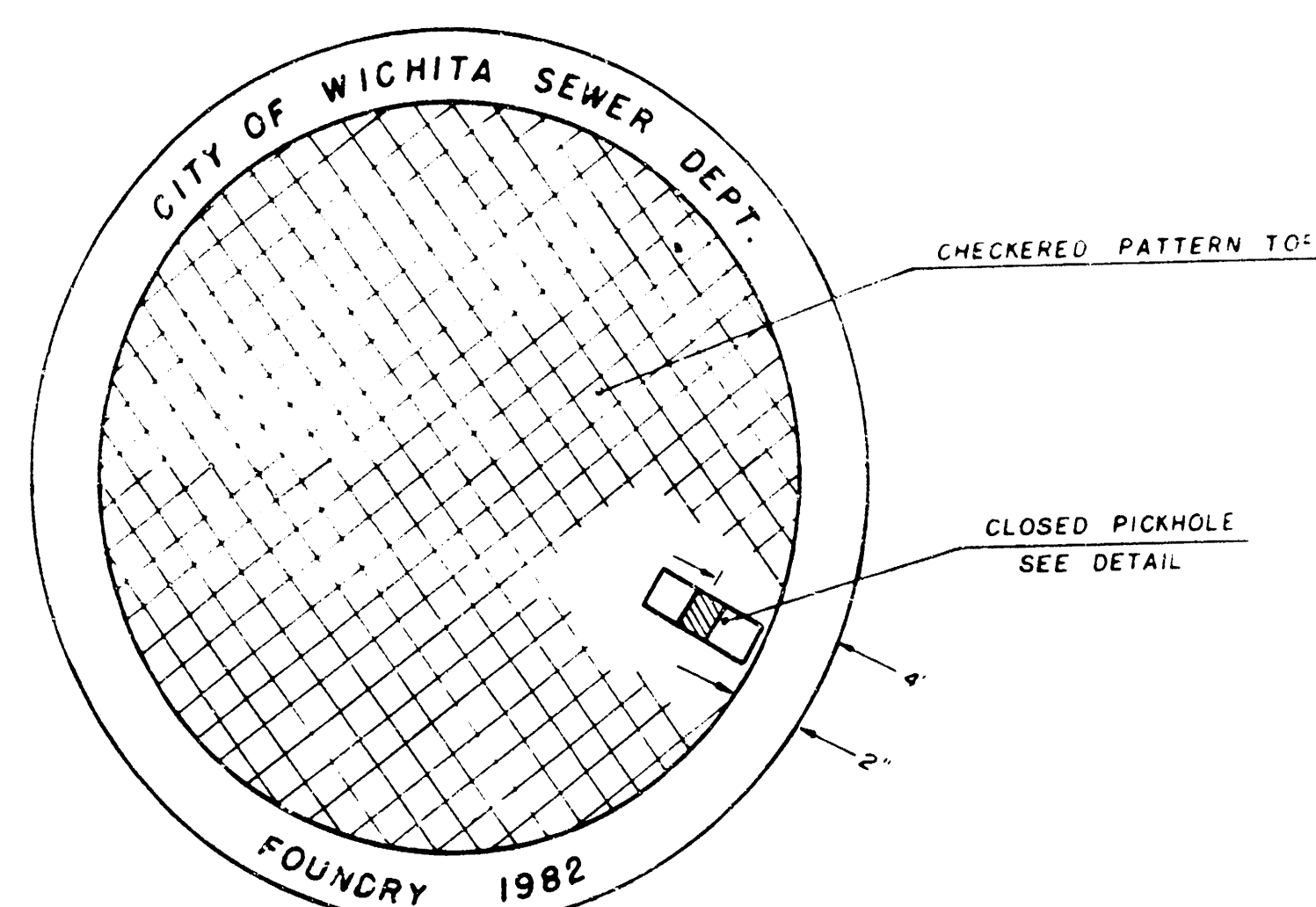
ADOPTED AS STANDARD DESIGN

BY

City of Wichita, Kansas

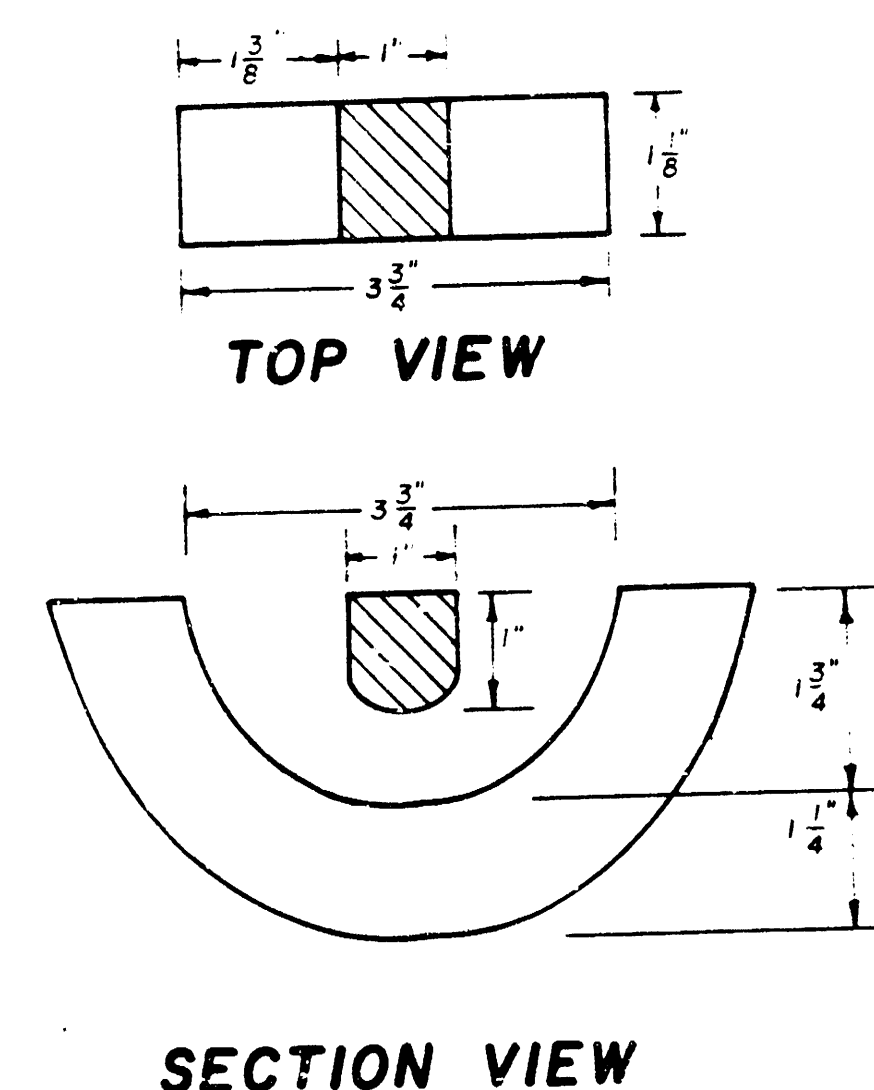
MANHOLE COVER

Weight: 180 Lbs.

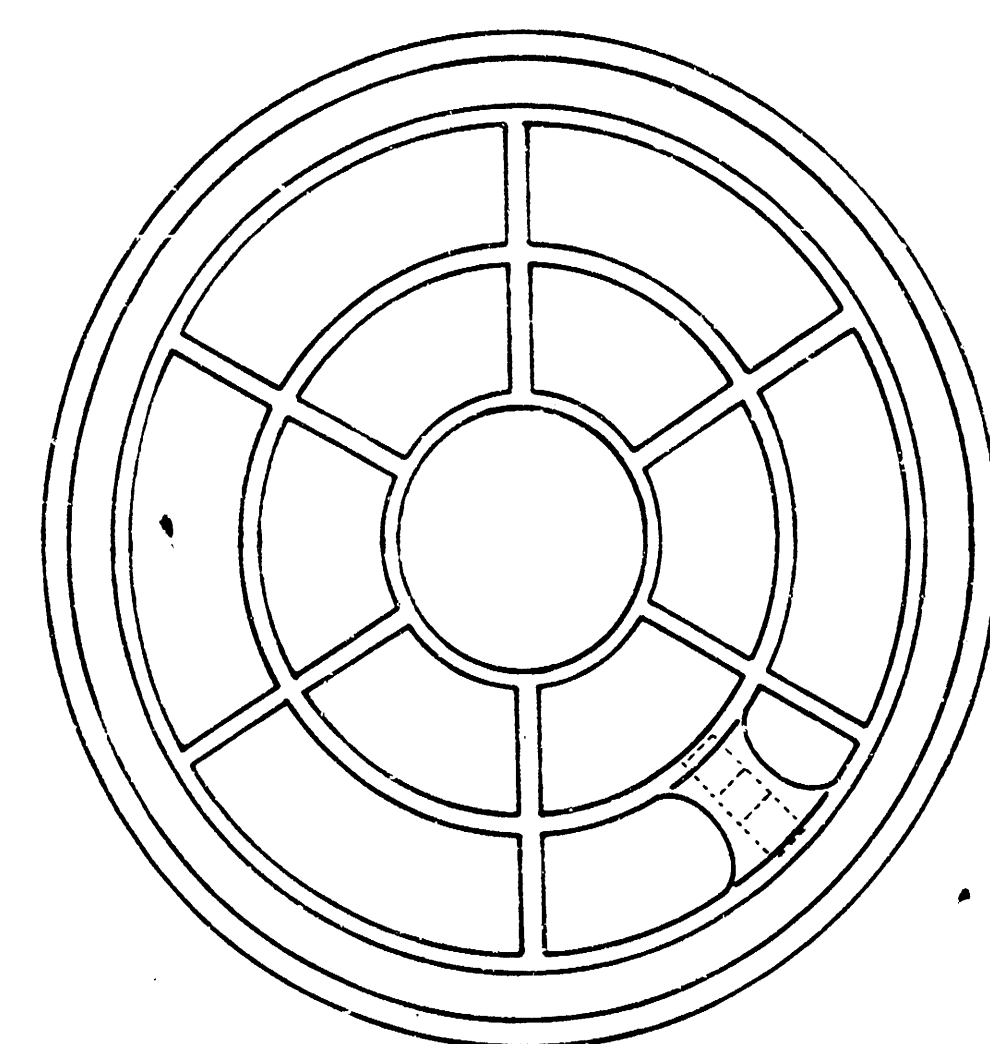


TOP VIEW

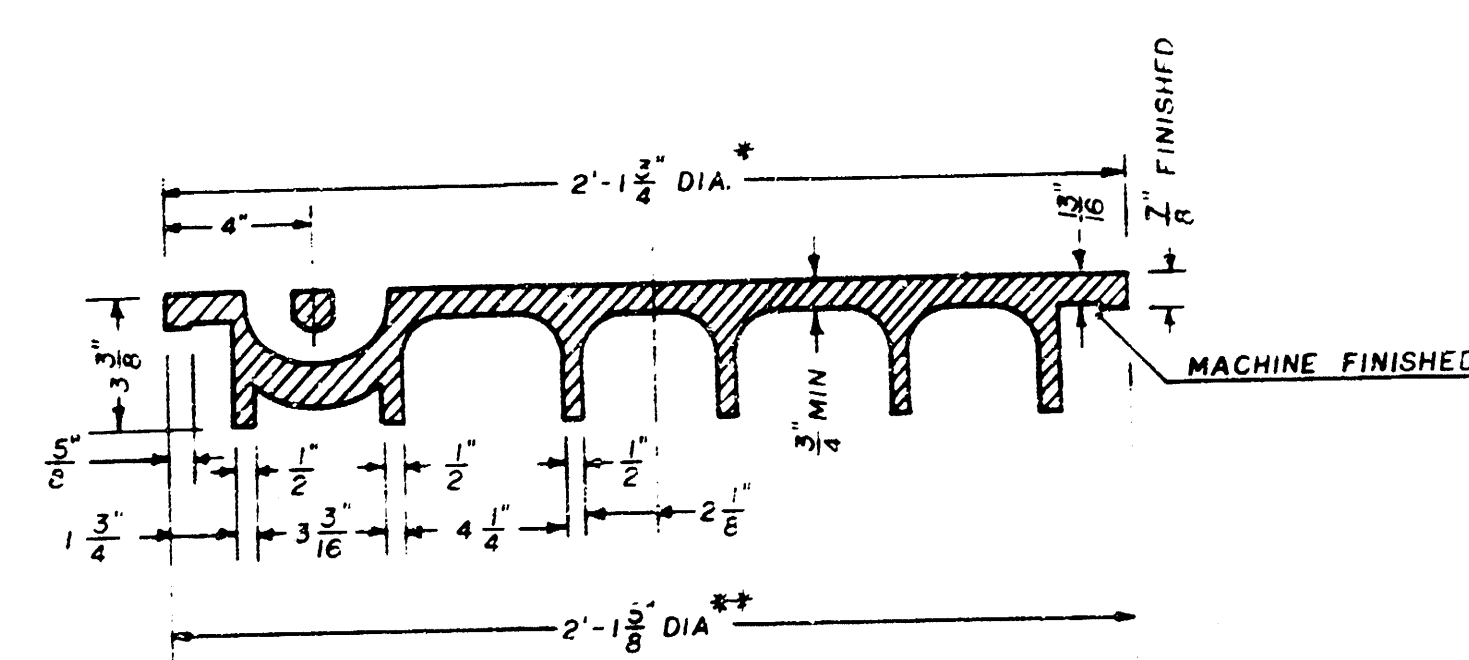
PICKHOLE DETAIL



SECTION VIEW



BOTTOM VIEW

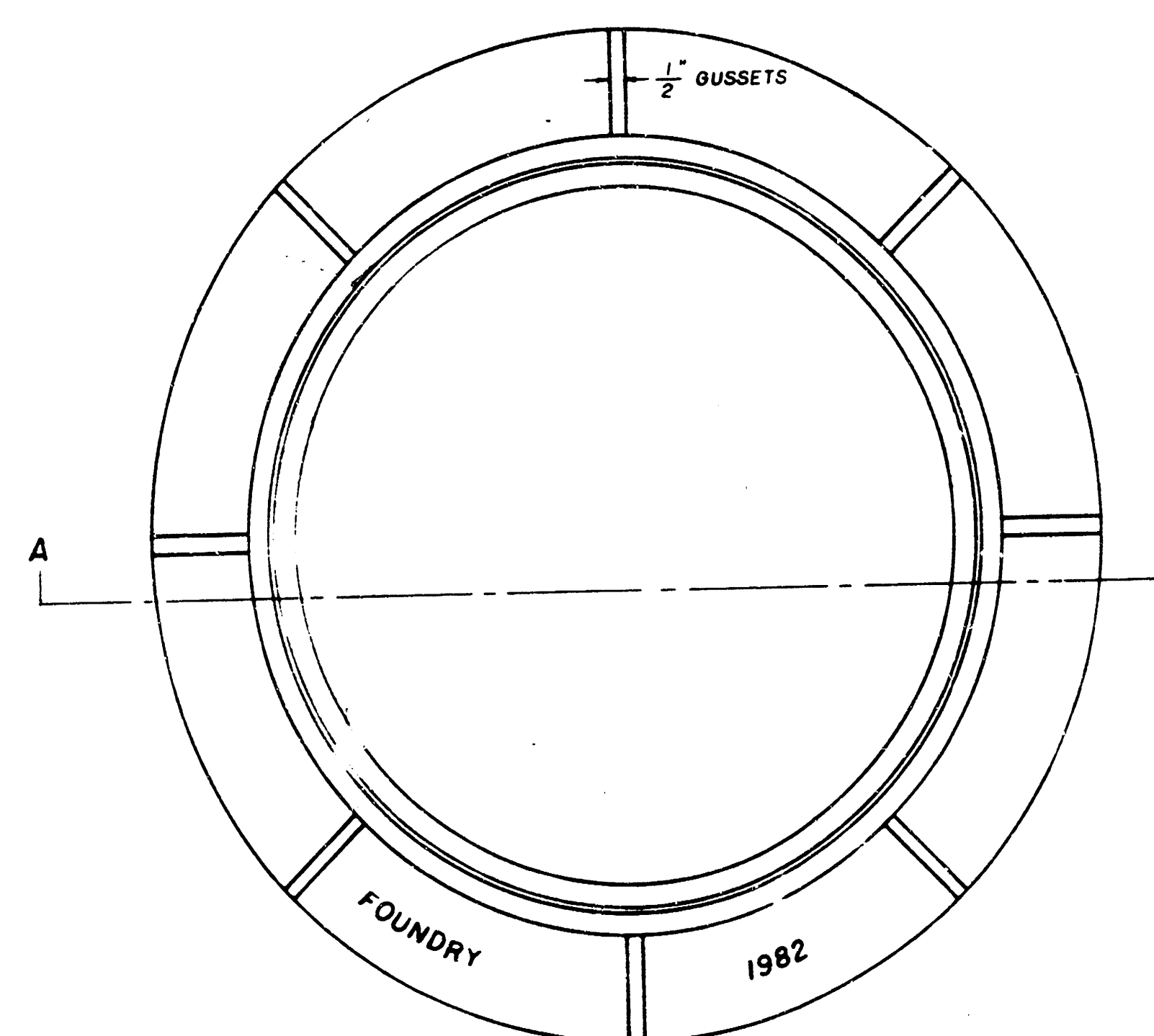


SECTION VIEW

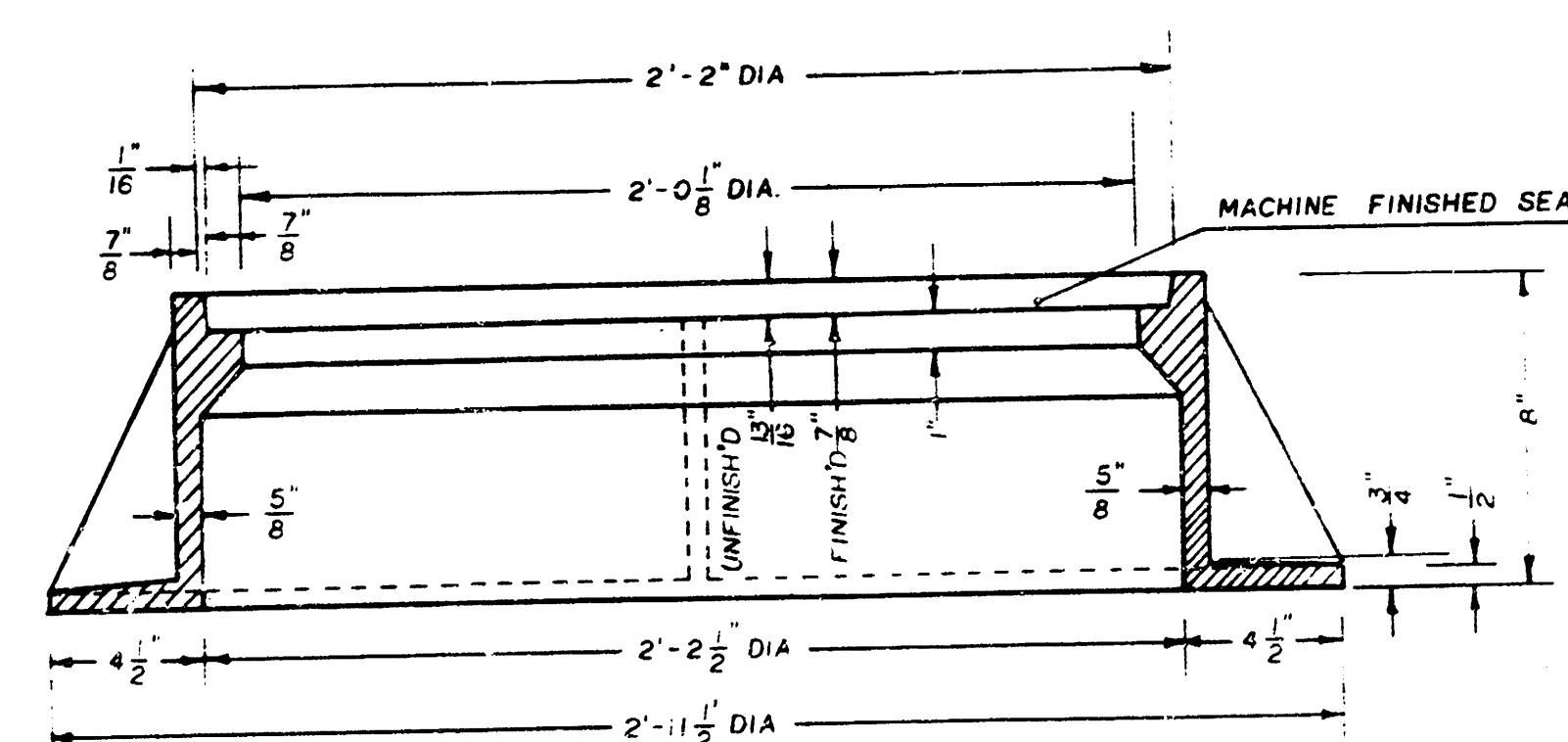
* OUTSIDE DIA TOP OF COVER
** OUTSIDE DIA BOTTOM OF COVER

MANHOLE FRAME

Weight: 240 Lbs.



TOP VIEW



SECTION A-A

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 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.
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 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.