

**DRAINAGE IMPROVEMENTS**

FOR

**THE NETT PARK ADDITION**

**STORM WATER SEWER NO. 326**

**Lots 39 through 47 inclusive, Block A**

**Lots 1 through 13 inclusive, Block B**

**Lots 23 through 32 inclusive, Block B**

PROJECT NUMBER

**468-76-245-81646-000-000-001**

**GENERAL NOTES**

1. Trees and shrubs in public right-of-way which are in direct conflict with proposed new construction shall be removed by the Contractor with the Engineer's approval. Trees and shrubs which are not in direct conflict with proposed new construction shall be saved and protected from damage.
2. 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 or a licensed professional engineer in accordance with state laws.

**BENCHMARKS**

PROJECT BENCH MARKS

- 1) Square cut in top of curb, south side of Yosemite, near the S.E. corner of lot 51, block B, The Nett Park Addition (see plan sheet 2). Elevation = 135.15
- 2) City disc at size Road and 27th Street South, 25 feet east and 4 feet south of quarter section corner. Elevation = 145.54 City Datum
- 3) City disc at the SE Corner, NW 1/4 of Section 5-28-1W. Elevation = 128.38 City Datum



■ BENEFIT DISTRICT

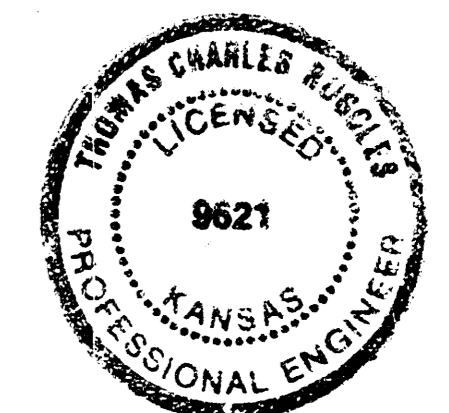
**THE CITY of WICHITA, KANSAS**

MICHAEL E. LINDEBAK  
CITY ENGINEER

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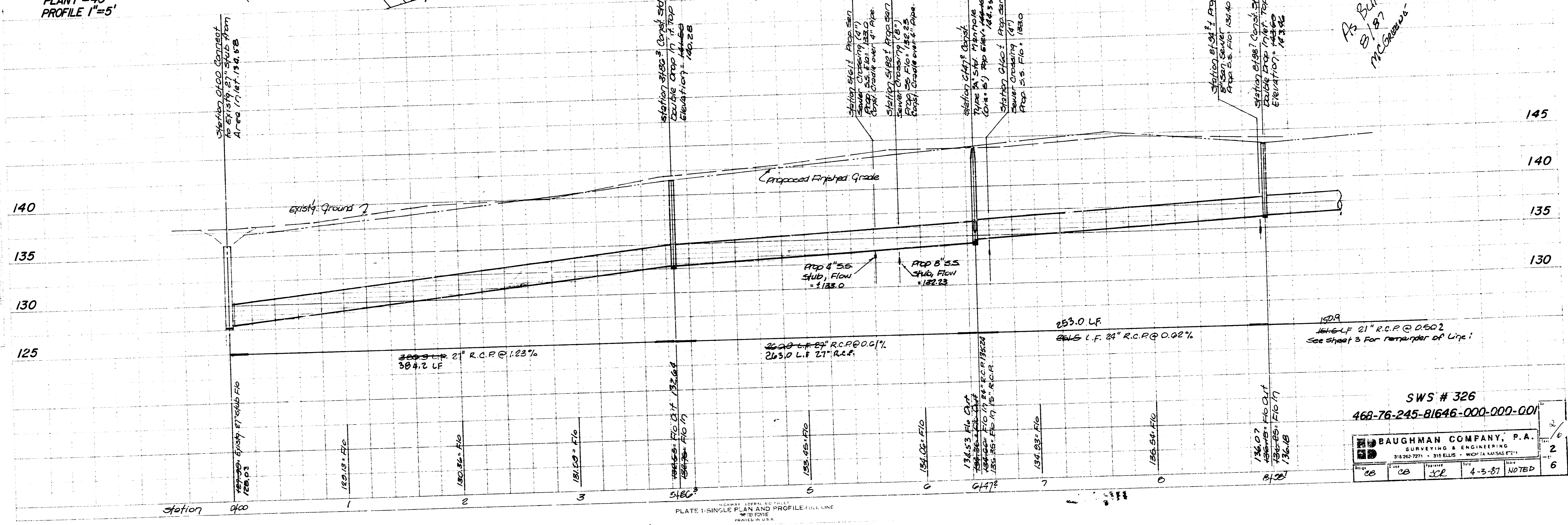
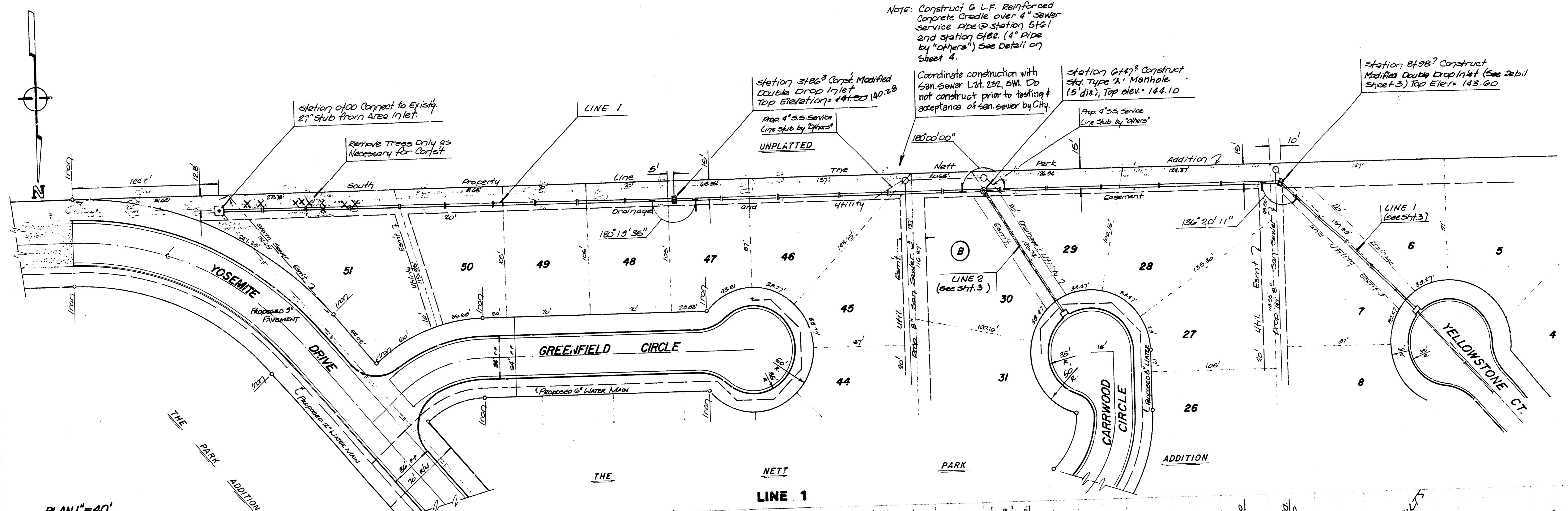
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*As BUILT  
8/87  
McGraw-Hill*



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Design: CB	Drawn: CB	Approved: JR	Date: 4-3-87
			Scale: NOTED

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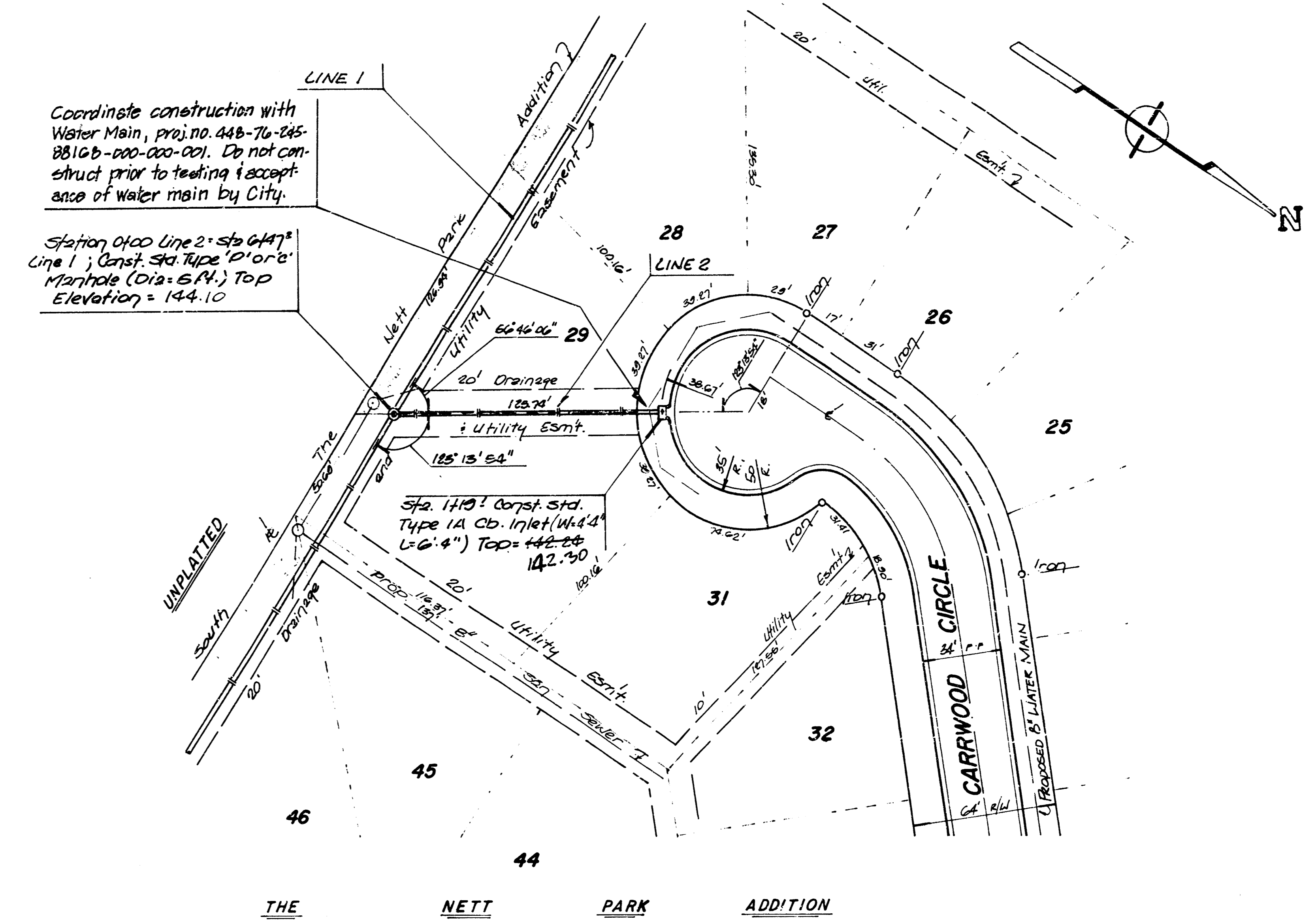
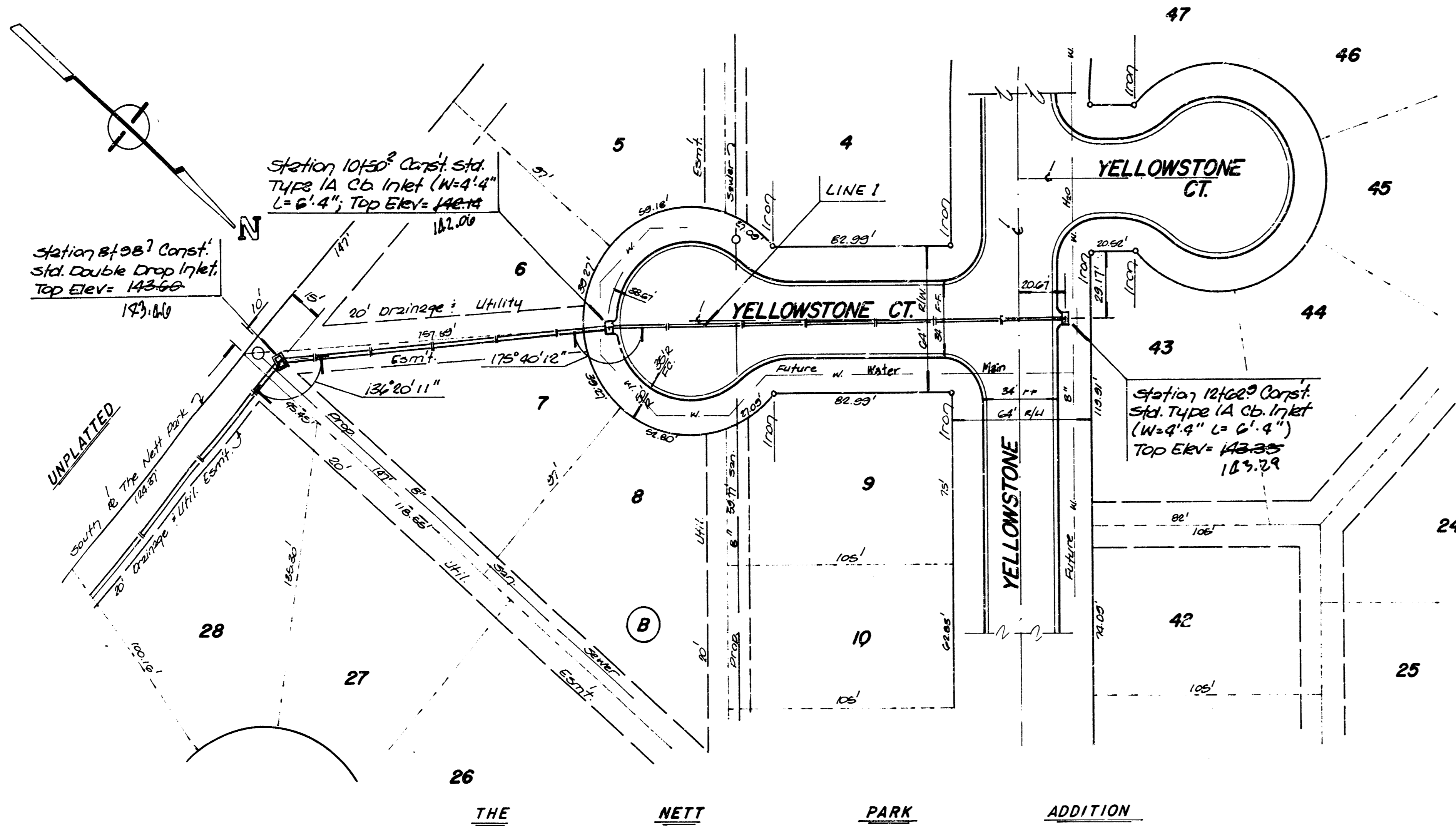
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SWS # 326  
468-76-245-81646-000-000

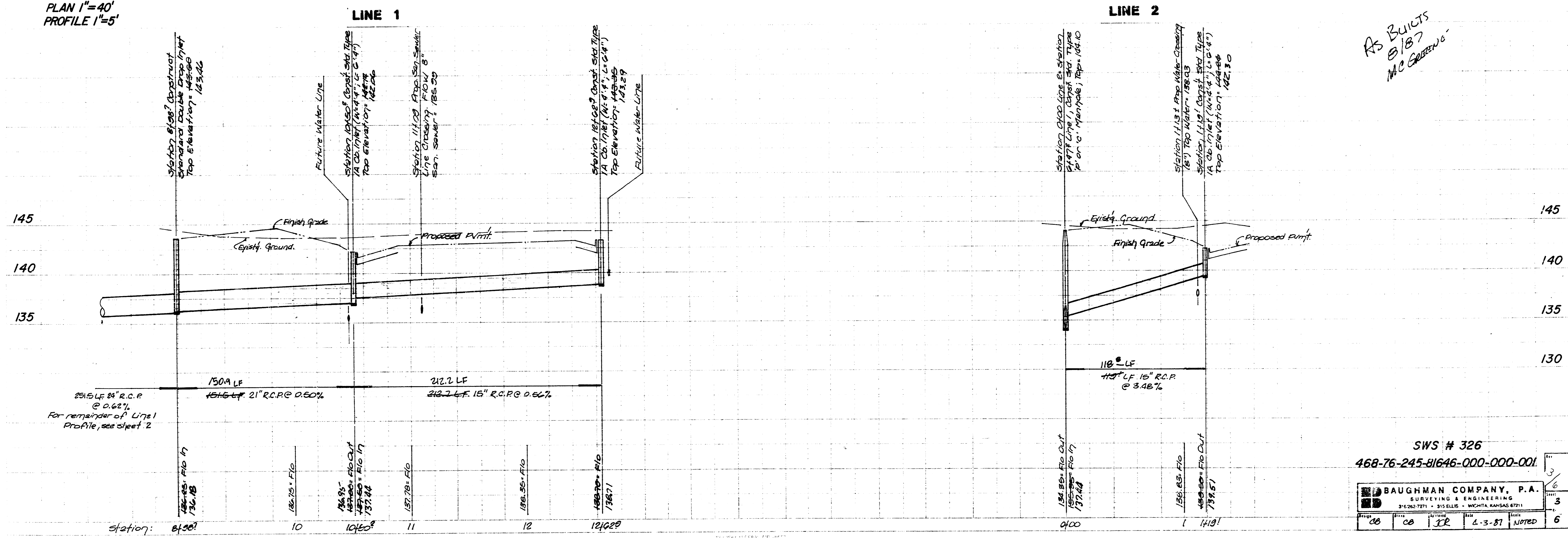
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PLAN 1"=40'  
PROFILE 1"=5'



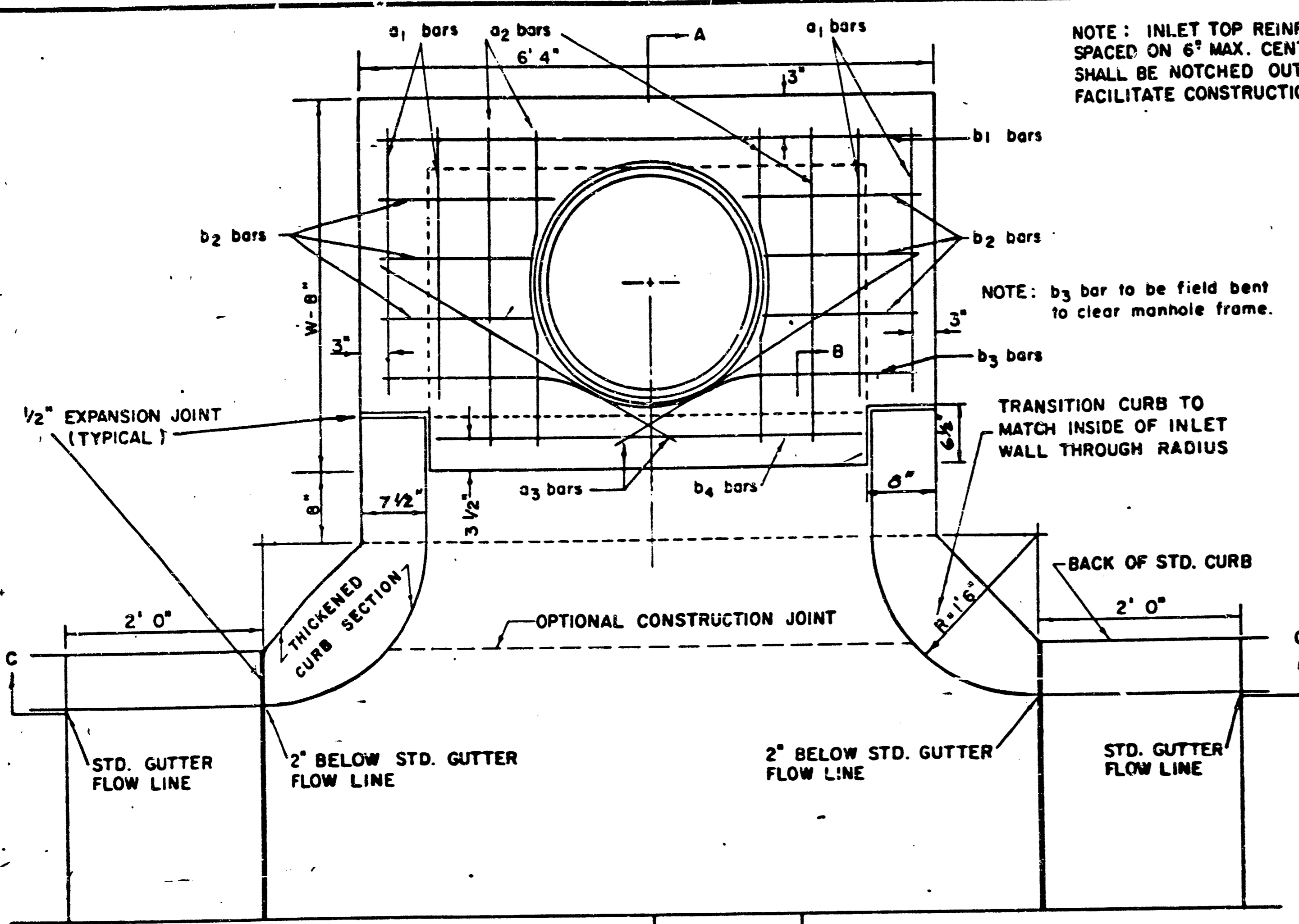
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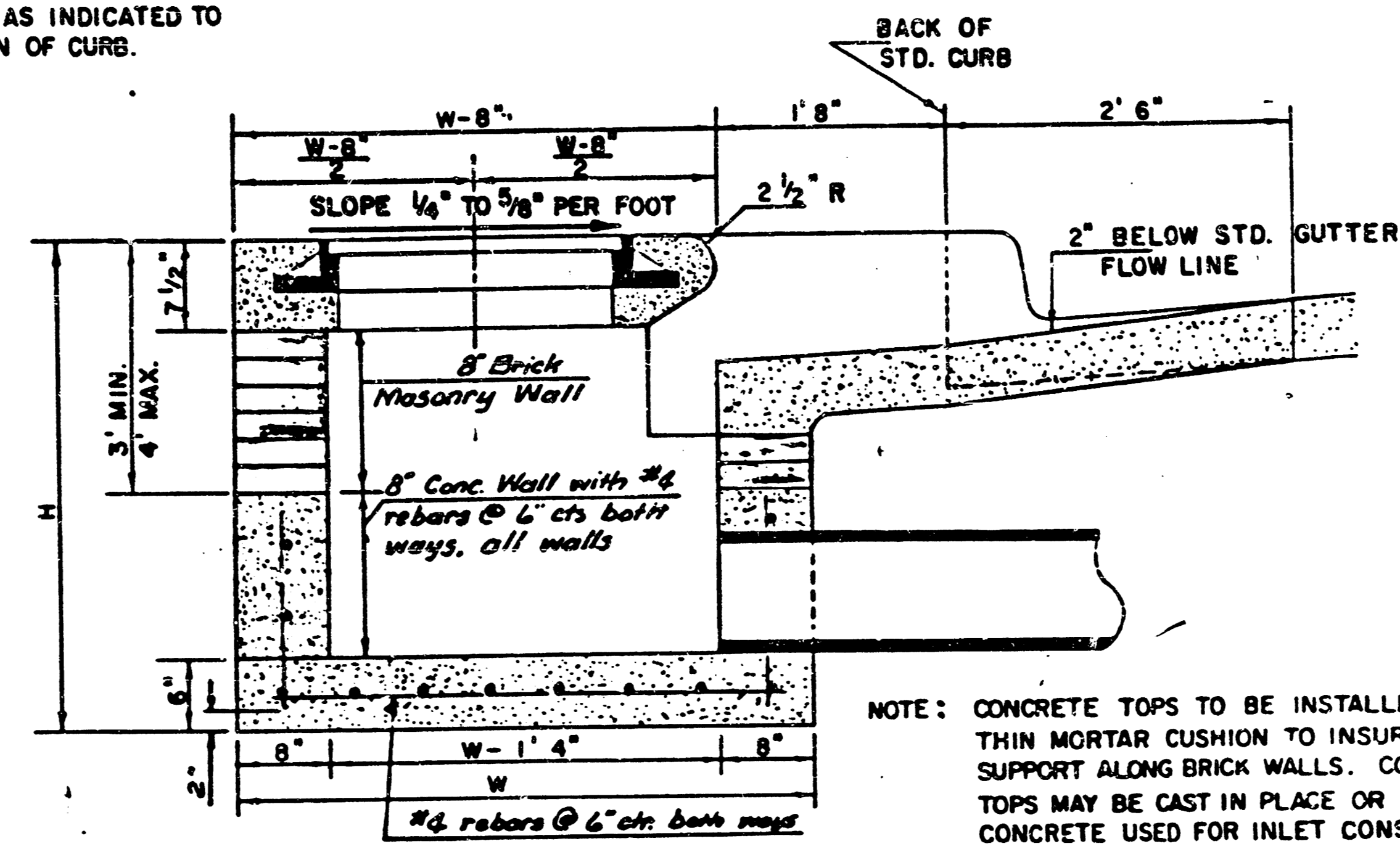
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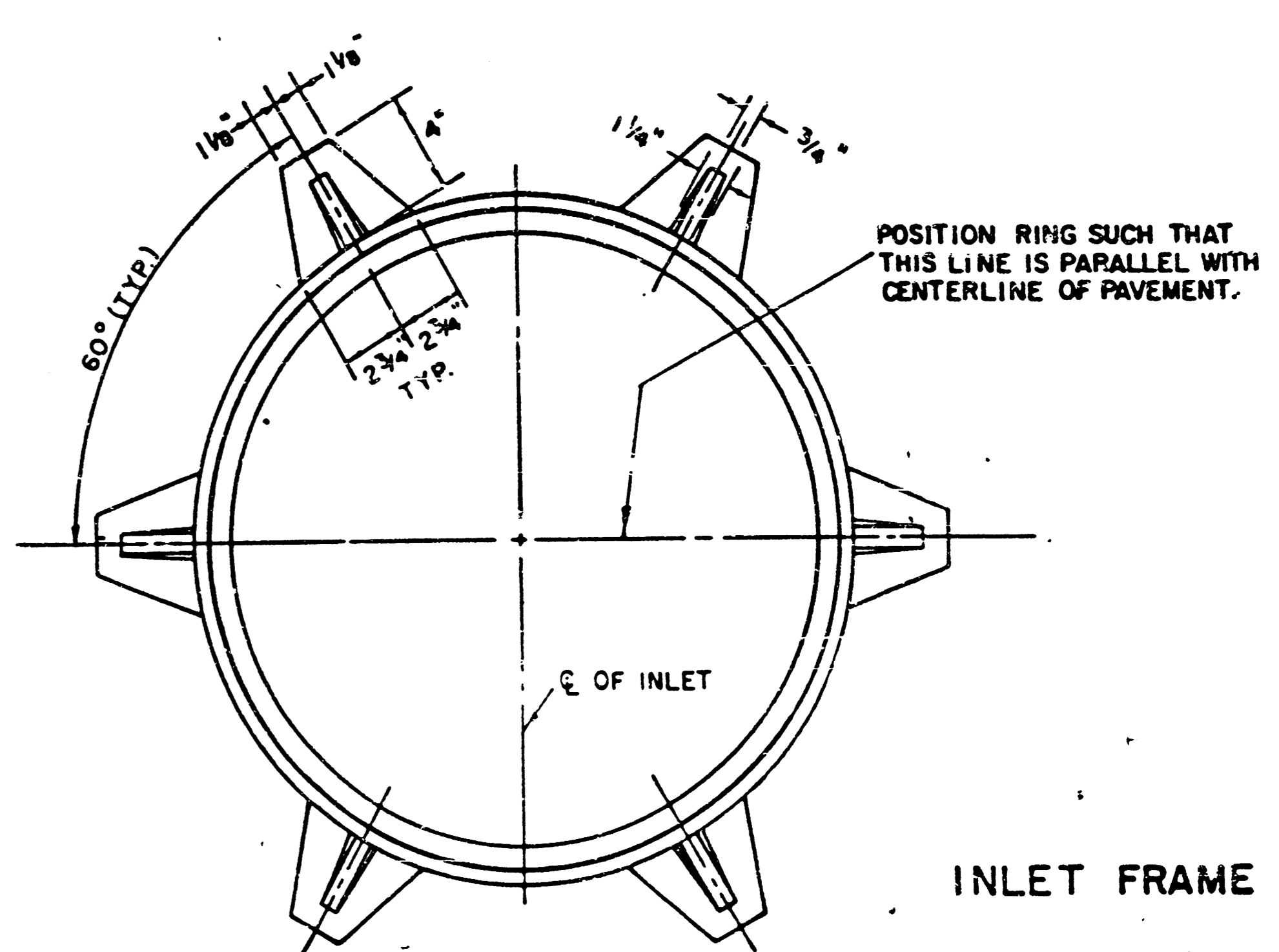
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PLAN



SECTION A-A



INLET FRAME

STEEL SCHEDULE

BAR NUMBER	a <sub>1</sub>	a <sub>2</sub>	a <sub>3</sub>	b <sub>1</sub>	b <sub>2</sub>	b <sub>3</sub>	b <sub>4</sub>	WT. LBS.
4	4	2	1	3	5	7	9	6
SIZE	"4	"4	"4	"4	"4	"4	"4	"6
W=4'4"	5'7"	6'7"	4'0"	6'1"	-	-	-	1'9" 6'2" 4'8" 80±
W=5'4"	7'7"	8'7"	5'0"	6'1"	-	-	-	1'9" 6'2" 4'8" 81±
W=6'4"	9'7"	10'7"	6'0"	6'1"	-	-	-	1'9" 6'2" 4'8" 101±
W=7'4"	11'7"	12'7"	7'0"	6'1"	-	-	-	1'9" 6'2" 4'8" 121±
W=8'4"	13'7"	14'7"	8'0"	6'1"	-	-	-	1'9" 6'2" 4'8" 141±

\* NOTE: a<sub>3</sub> BARS TO BE PLACED APPROX. 2" BELOW TOP OF INLET COVER

STANDARD CURB INLET PRECAST TOPS

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

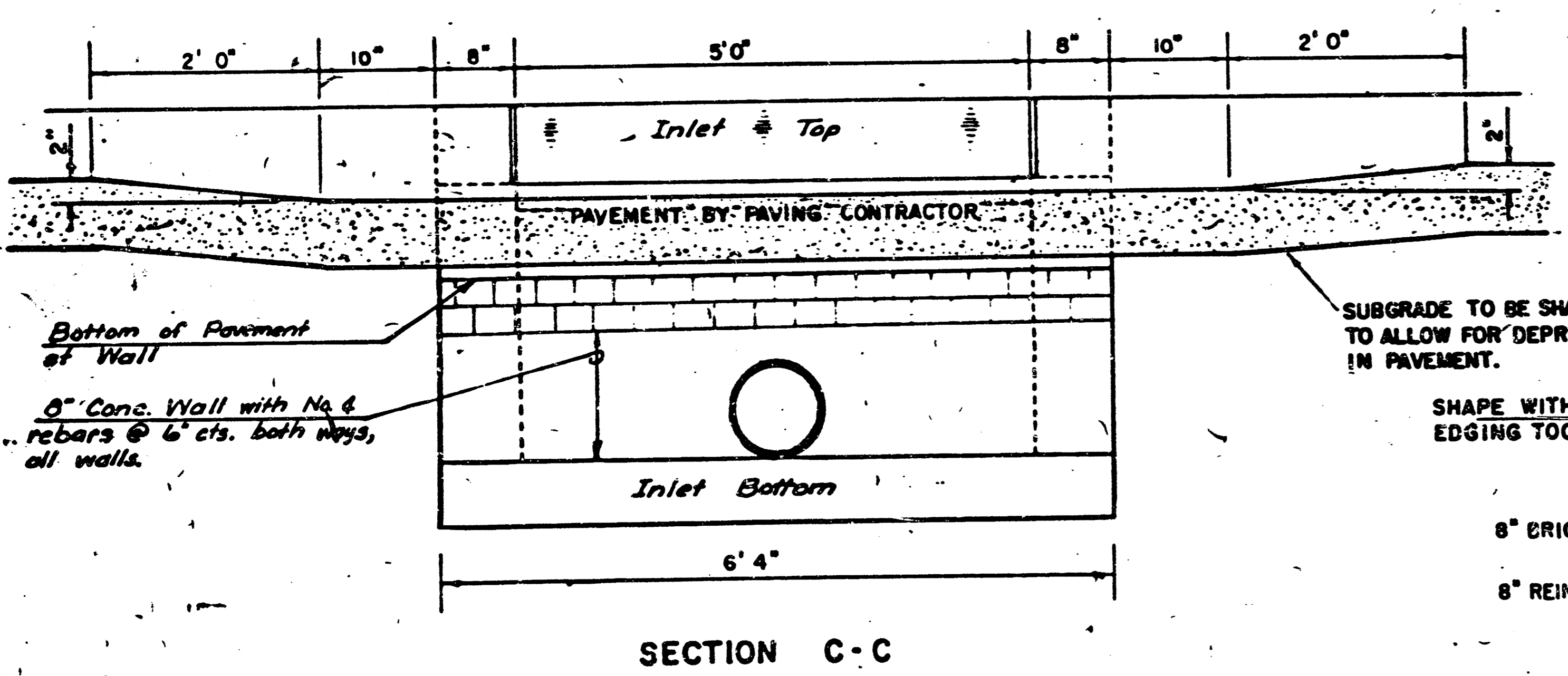
BENDING DIAGRAM

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.

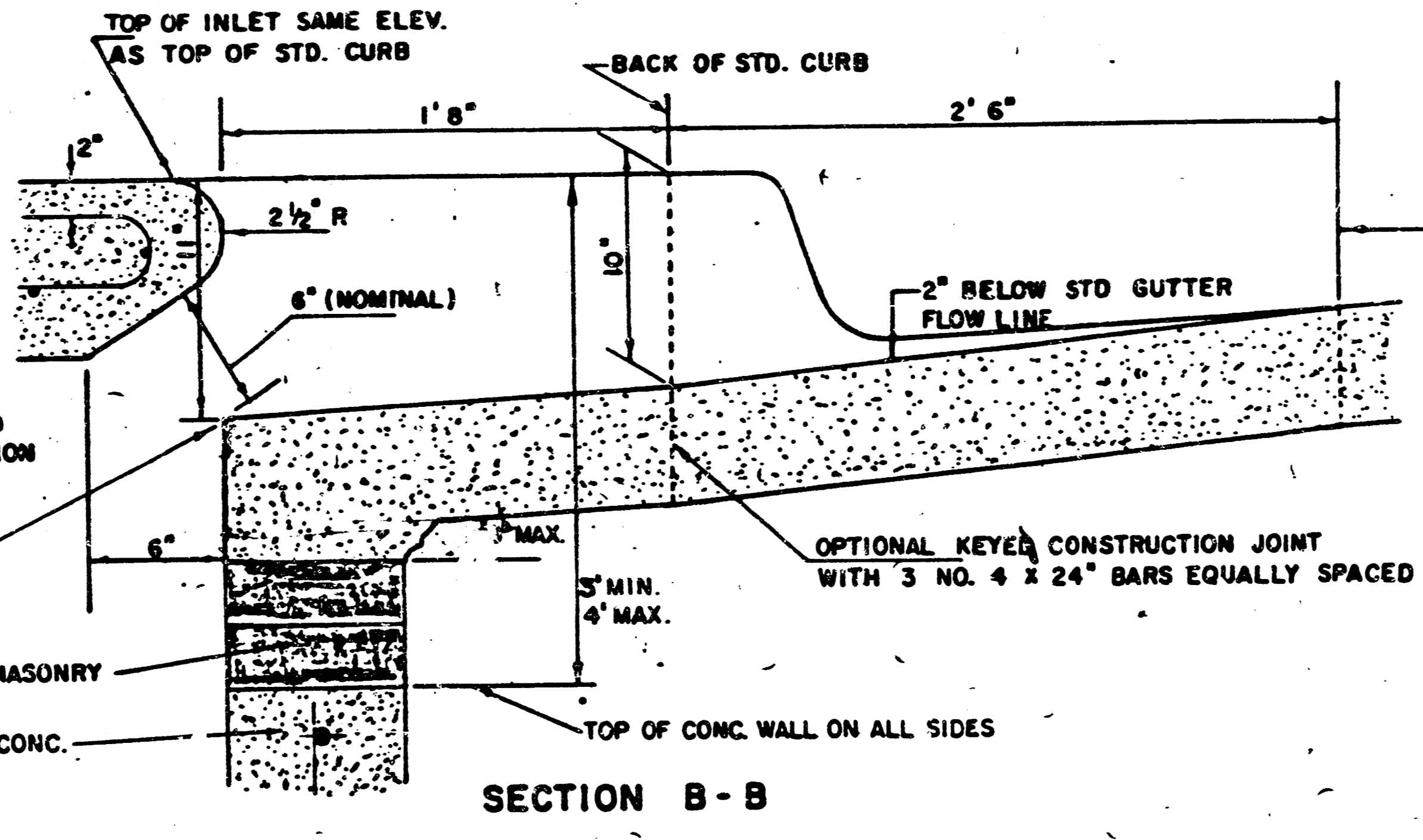
ADDITIONAL CURB AND GUTTER CONSTRUCTION NECESSARY TO CONNECT SET-BACK INLET TO PAVEMENT WILL BE PAID FOR AT THE UNIT PRICE BID FOR EACH INLET HOODUP.

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.

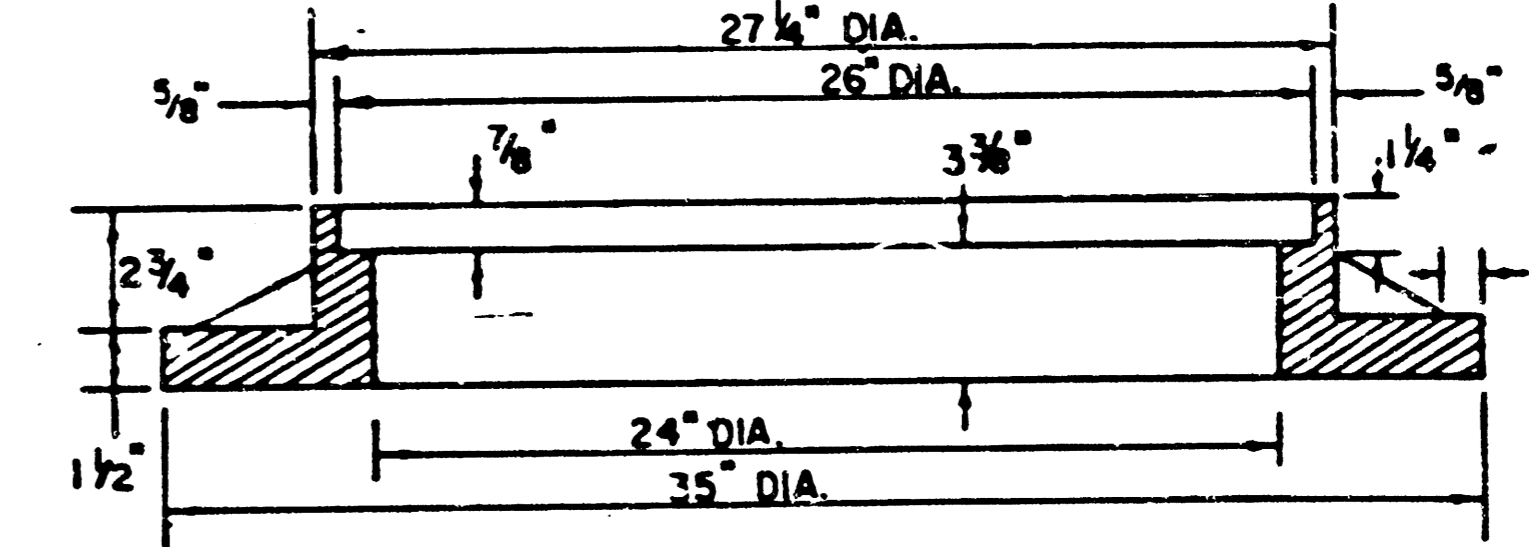
THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.



SECTION C-C



SECTION B-B



DETAIL OF REINFORCED CONCRETE CRADLE AT STATIONS 5+61 AND 5+82

REVISED 12-21-1984

DETAIL STANDARD TYPE IA CURB INLET

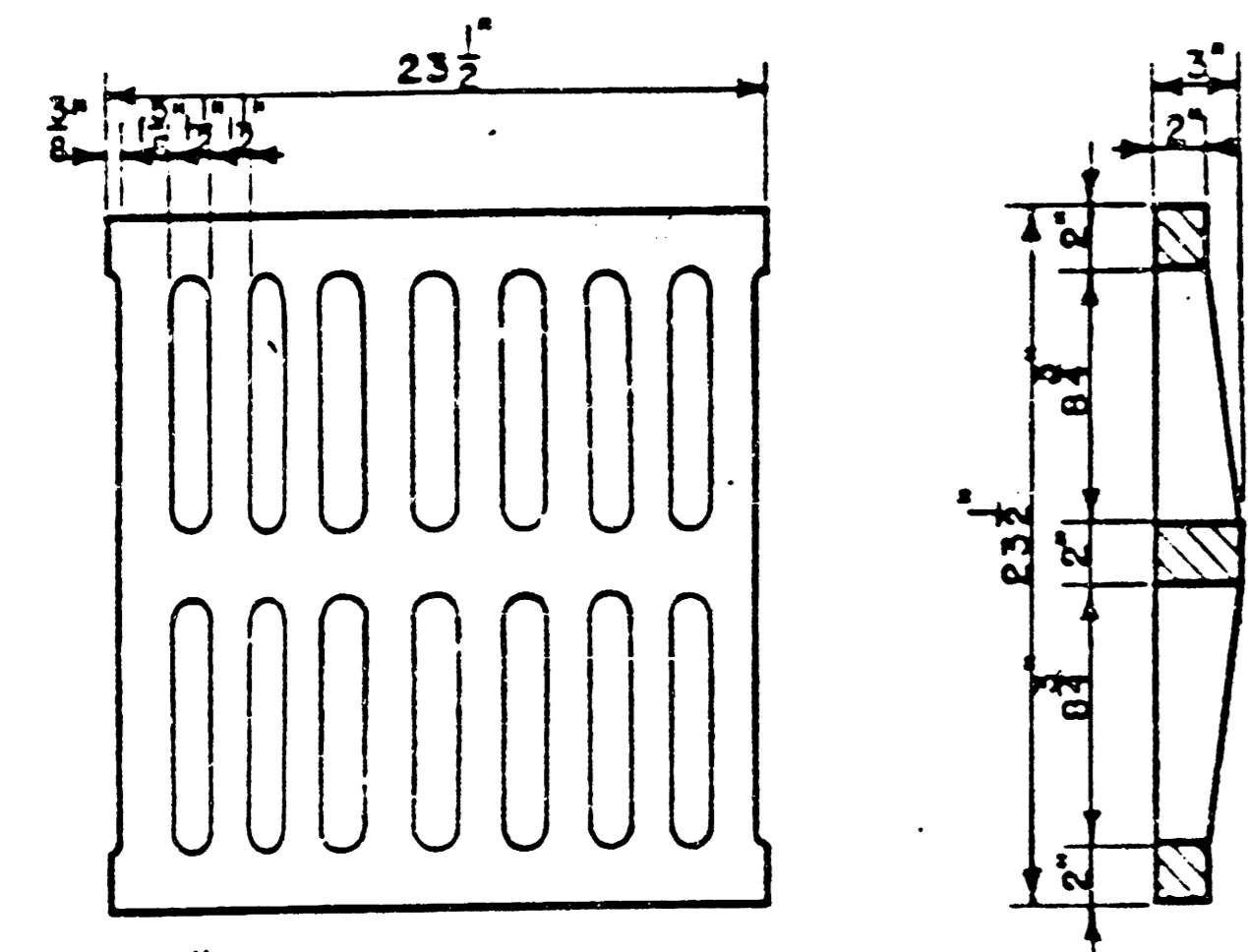
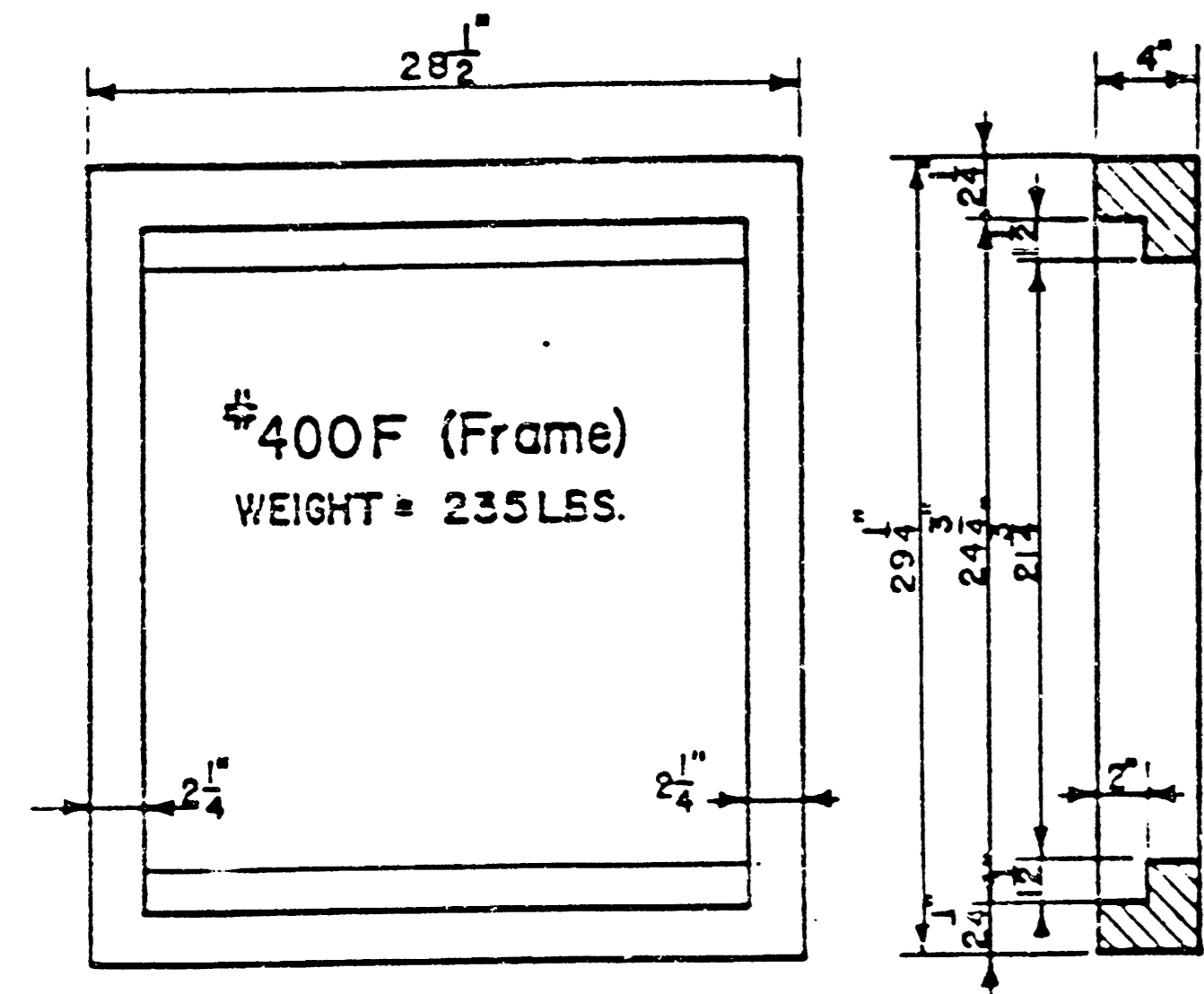
CITY OF WICHITA, KANSAS

INLET OPENING = 6" x 5' 0"

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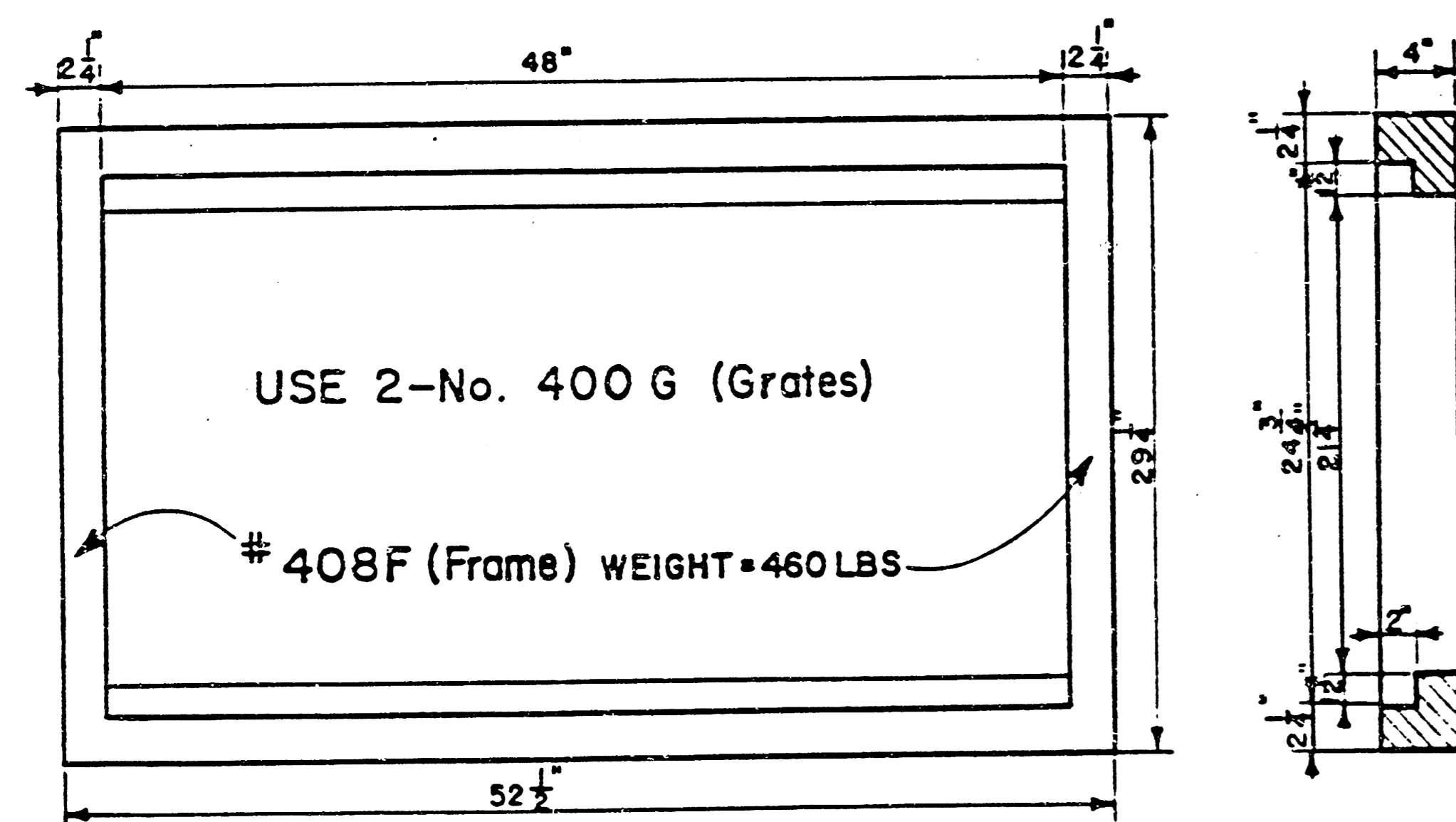
JUNE 1984

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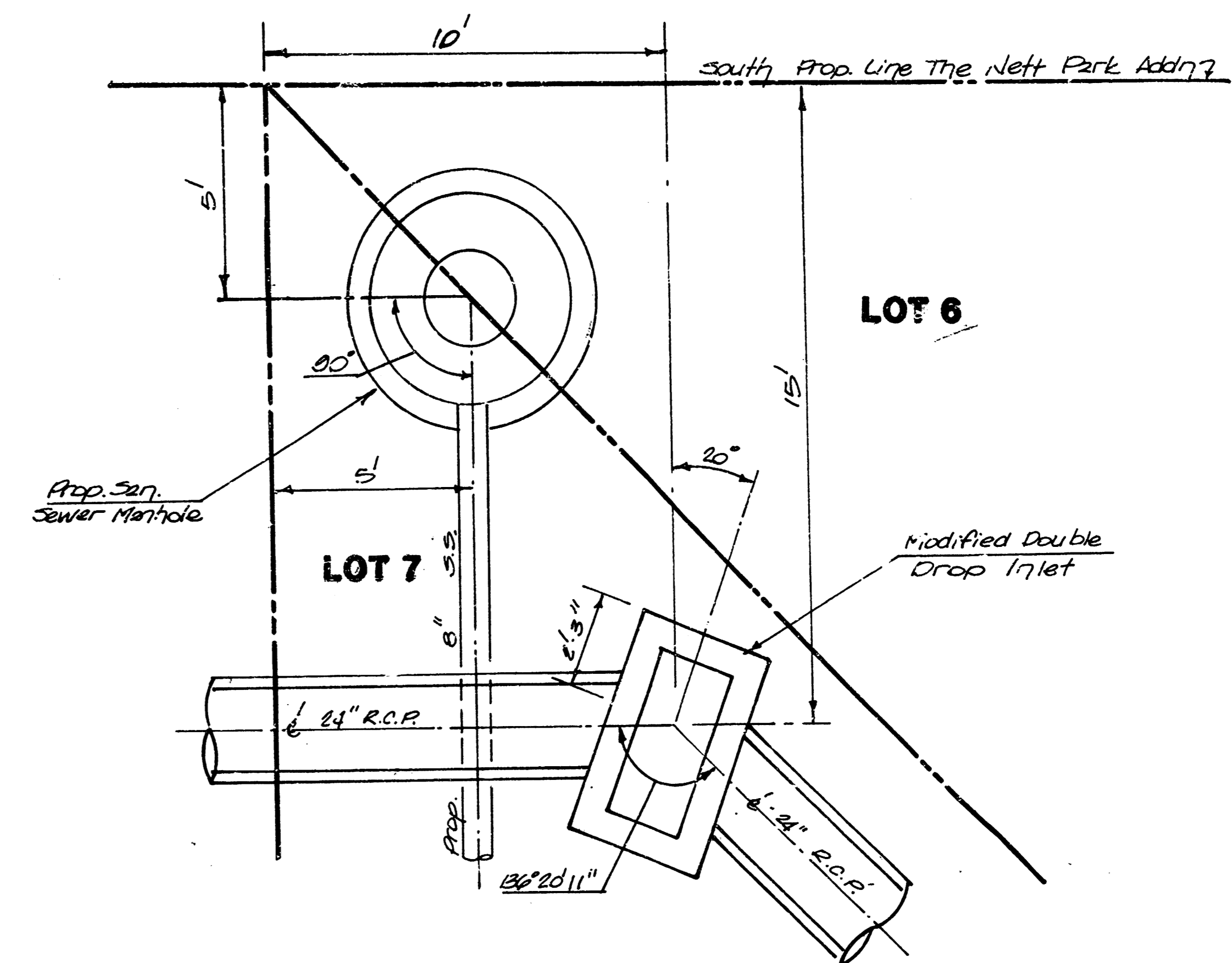
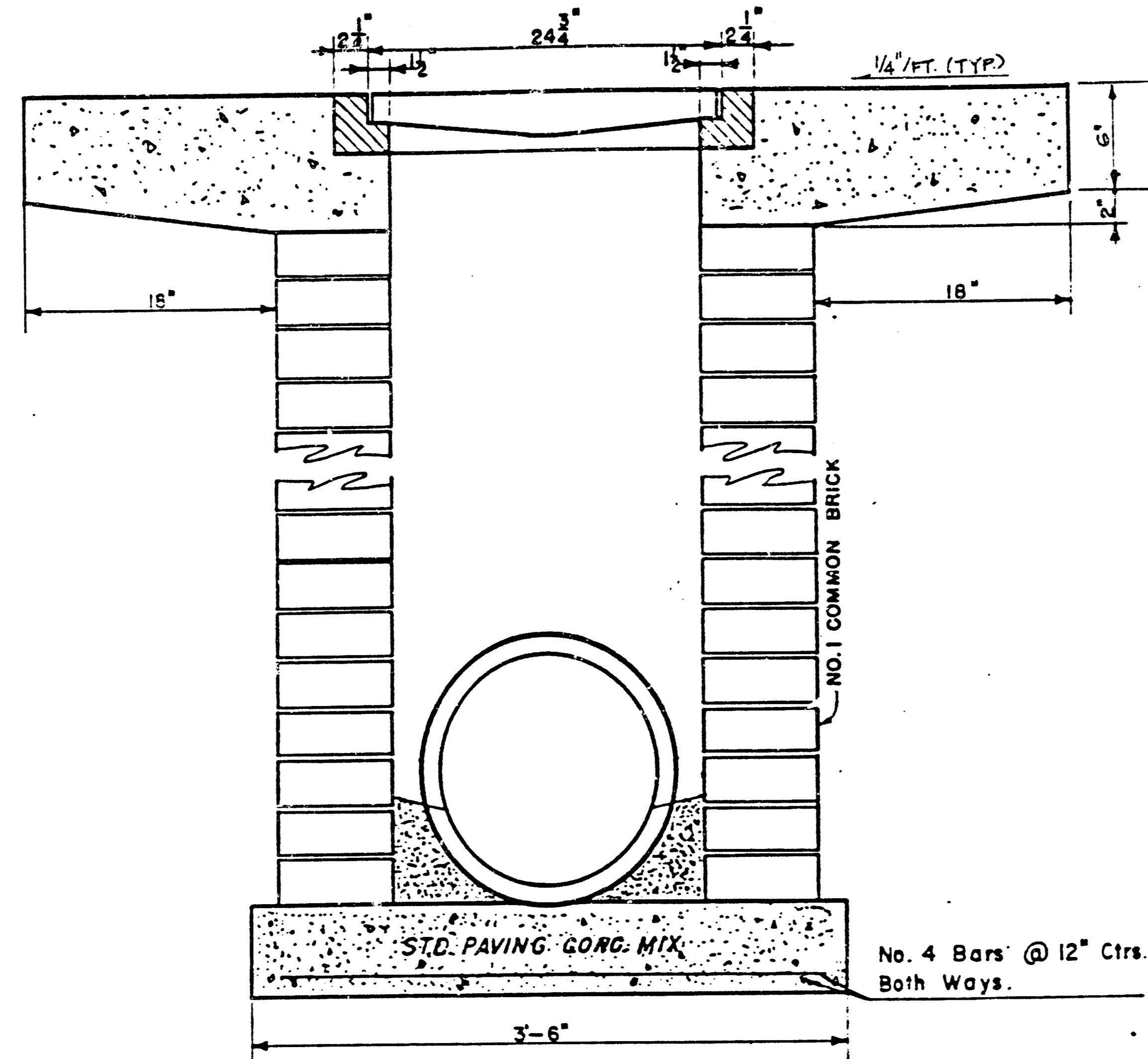
# 400G (Grate)  
WEIGHT = 235 LBS

24"x24" Frame & Grate Detail

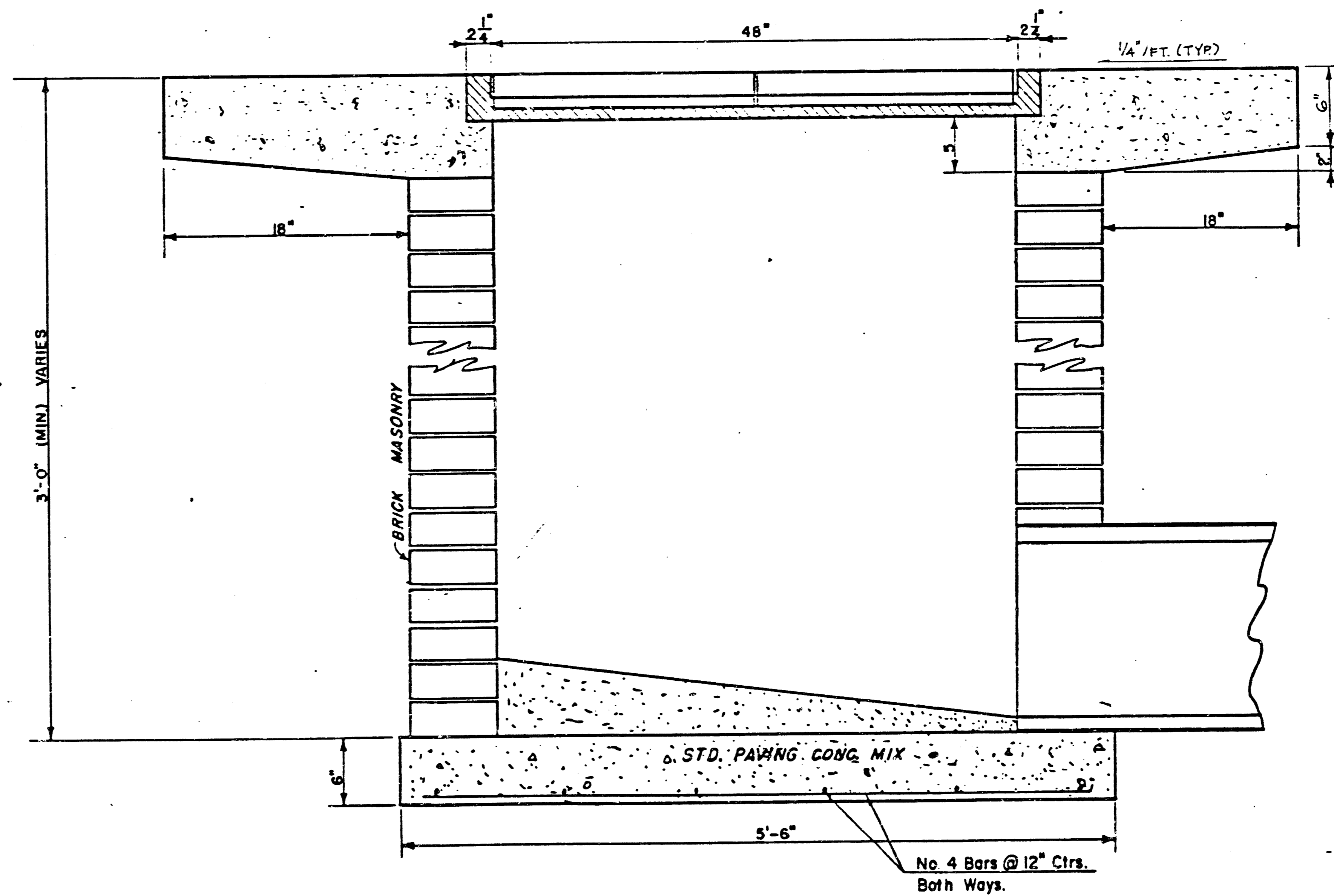


Double 24"x24" Frame Detail

NOTE: Grates shall be imprinted on the top surface with "CITY OF WICHITA" using letters at least 1" in height. Other marking methods may be used only if approved by the engineer.



ALIGNMENT DETAIL  
STATION 8+98.7



MODIFIED  
DROP INLET DETAILS

M.E. Lindebak, City Engineer  
City of Wichita, Kansas  
Project SWS 326  
Project No. 468-76-245-81646-000-000-00  
Date: APRIL 1987  
Scale: 1-1/2" = 1'-0" 5/6 5/6

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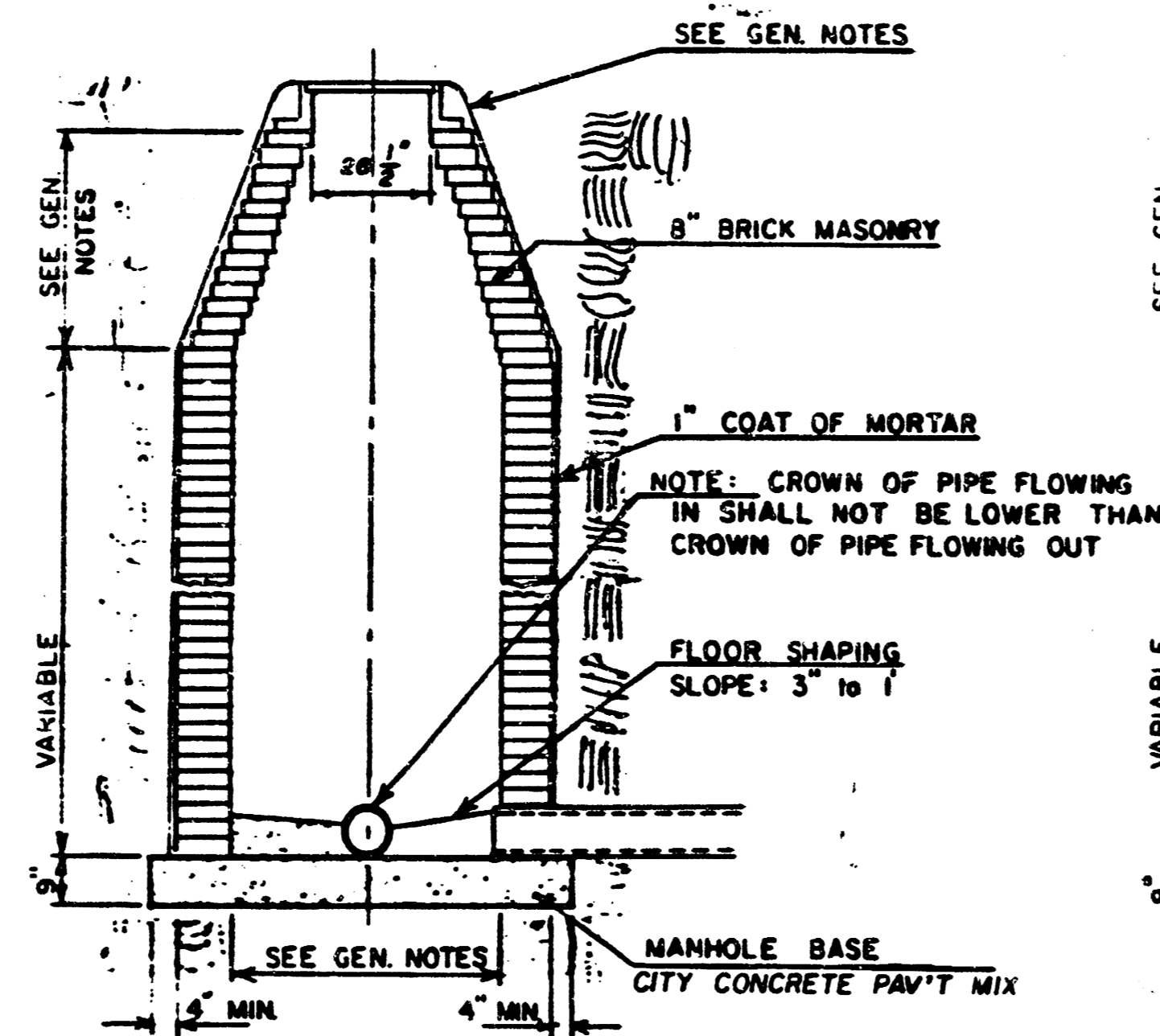
# SEWER APPURTENANCES DETAILS

REVISED SEPTEMBER 1980  
REVISED DECEMBER 1981

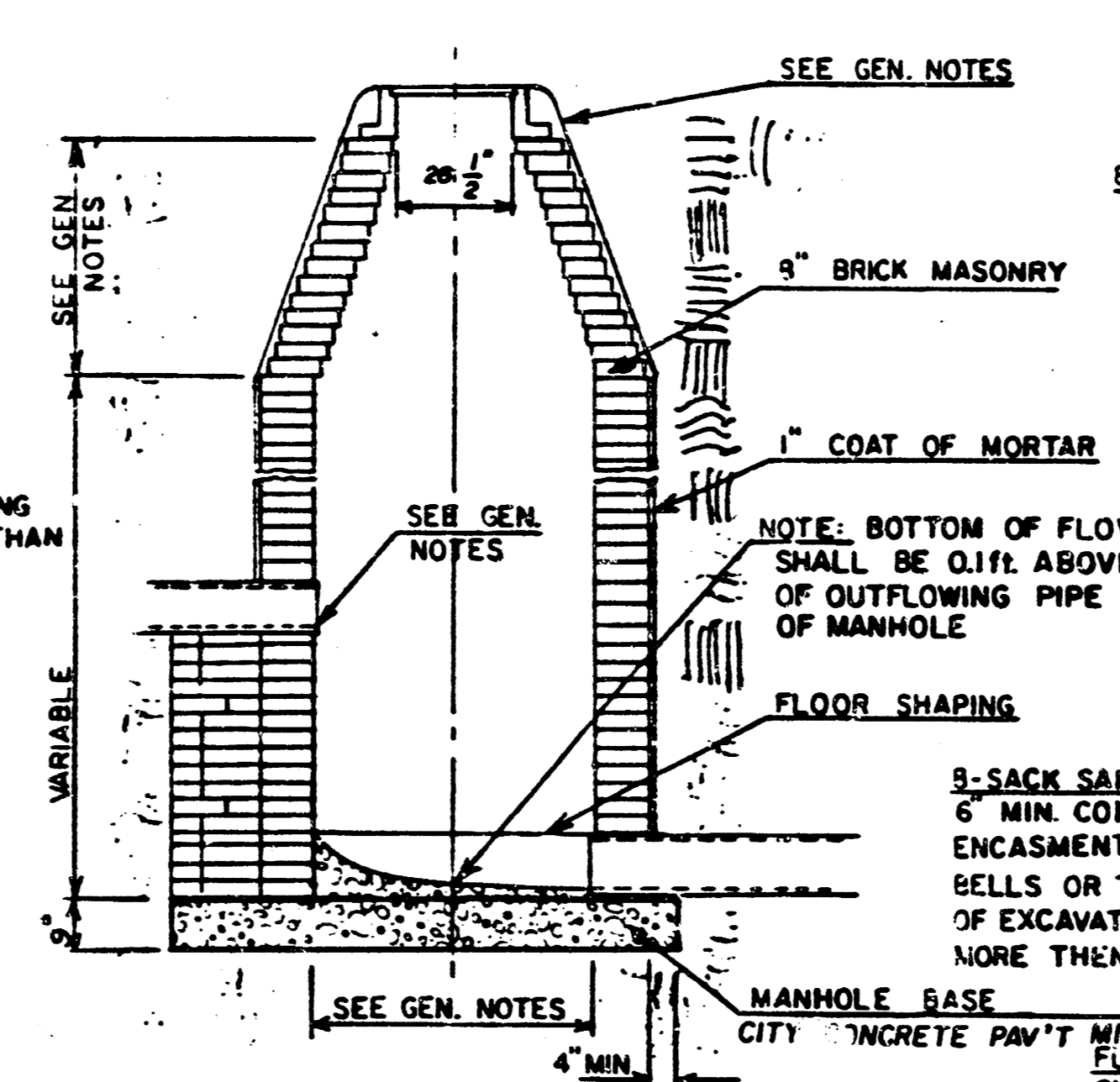
ADOPTED AS STANDARD DESIGN  
BY

CITY of WICHITA, KANSAS

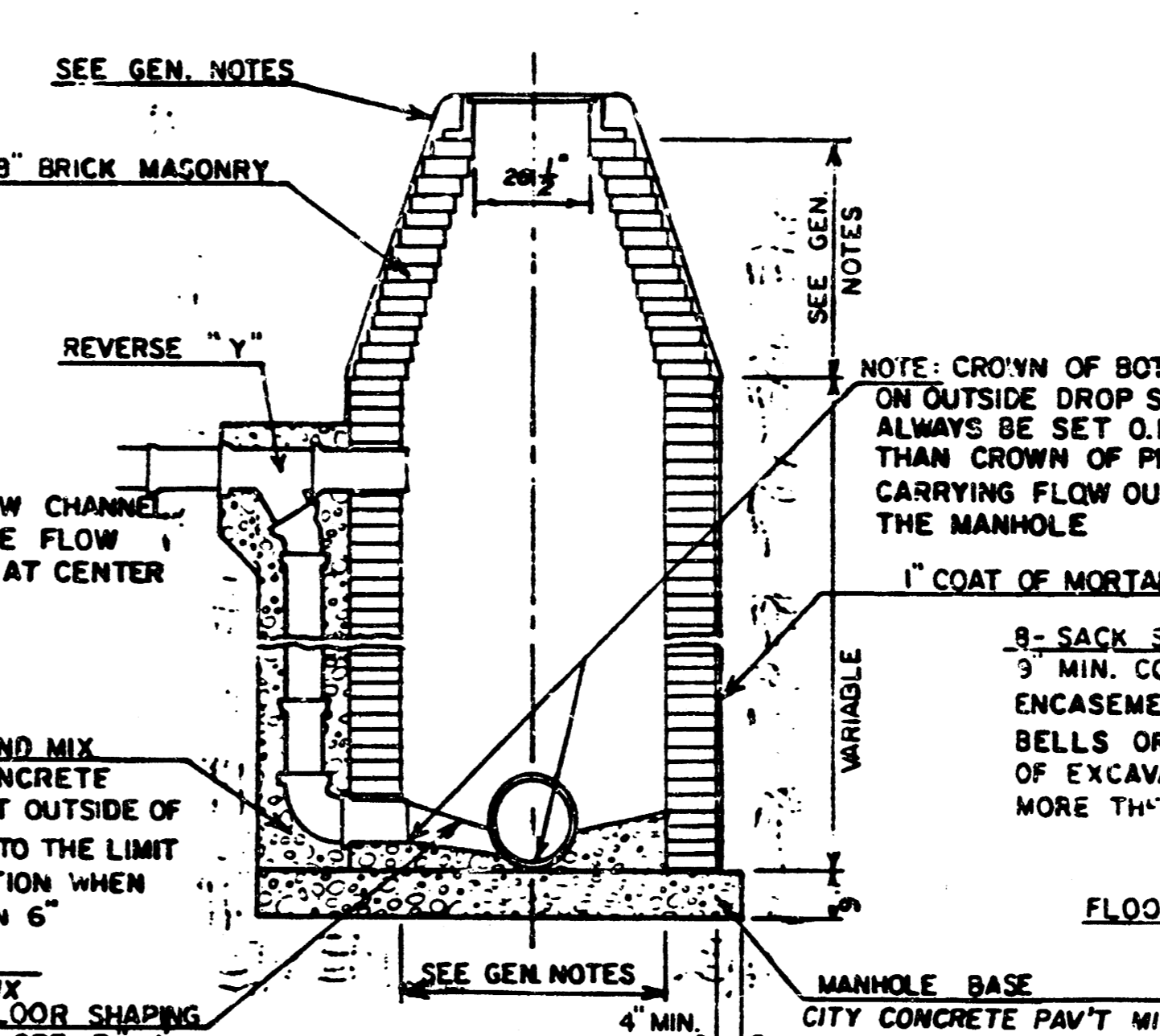
TYPE "A" MANHOLE



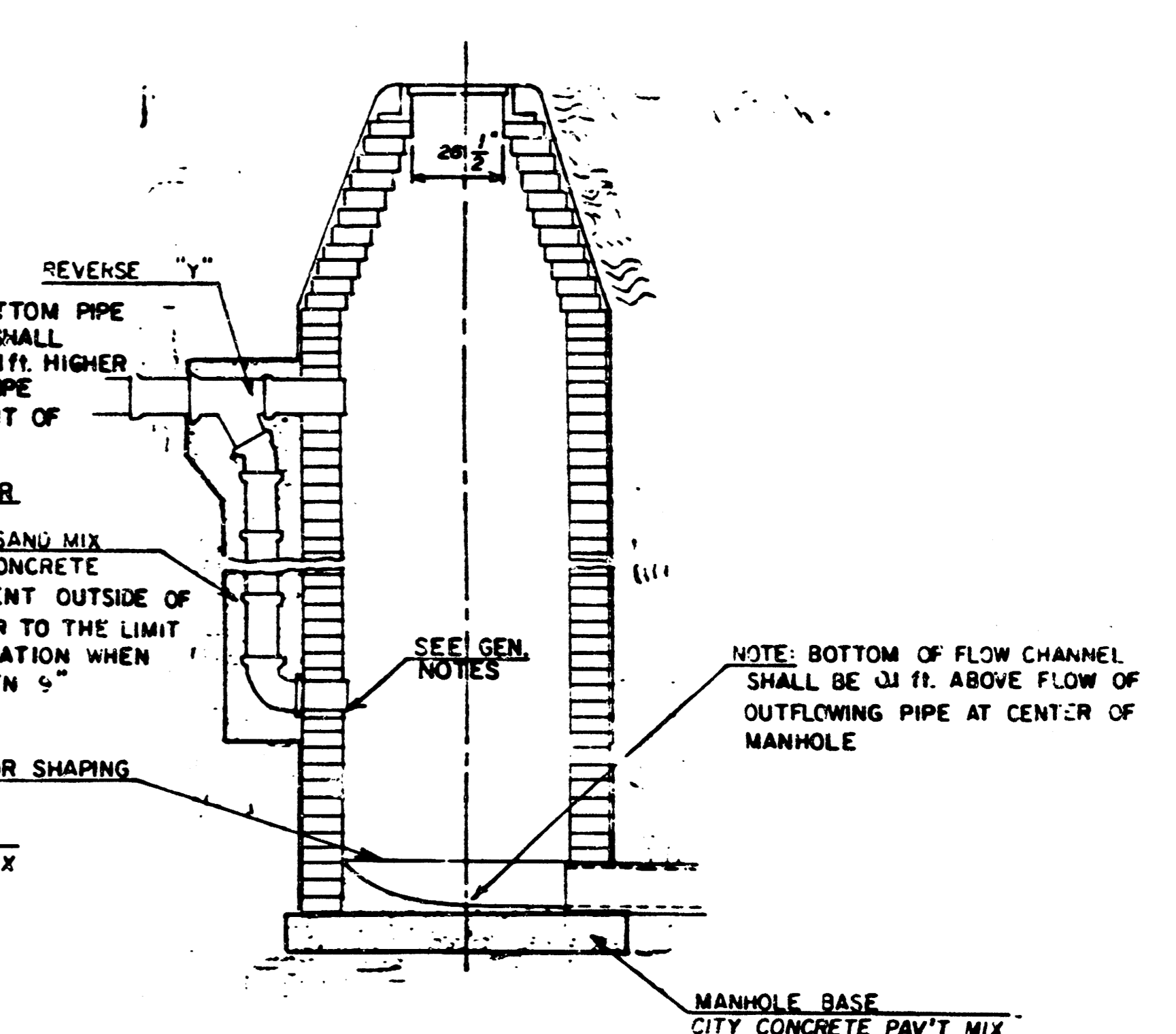
TYPE "A" INSIDE DROP MANHOLE



TYPE "A" OUTSIDE DROP MANHOLE



DETAIL OF OUTSIDE DROP  
CONSTRUCTED ON EXISTING MANHOLE



GENERAL NOTES

- 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. TYPE "A" MANHOLES CAN BE USED ON SEWERS UP TO 16' IN DEPTH WHEN THE MANHOLE IS NOT LOCATED WITHIN PUBLIC STREET PAVEMENT. 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'. THE HEIGHT OF THE CORBELS ON 4' DIAMETER MANHOLES SHALL BE 4'. MANHOLES HAVING A DIAMETER OF 5' SHALL HAVE CORBELS 6' IN HEIGHT. 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 6" 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 SMALL AS PRACTICAL TO FACILITATE INSTALLING AND GROUTING THE NEW PIPE IN PLACE. WATERSTOP GASKETS SHALL BE USED WITH P.V.C. AND A.B.S. 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. THE VERTICAL DROP FROM THE LOWER PIPE ON SUCH OUTSIDE DROP CONNECTIONS SHALL NOT EXCEED 4' FOR INFLOWING PIPES SIZED 12" OR SMALLER AND 2' FOR INFLOWING PIPES SIZED LARGER THAN 12". EXCEPT THE CROWN OF THE LOWER PIPE SHALL NEVER BE SET BELOW THE CROWN OF ANY LARGER OUTFLOWING PIPE. 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 PIPES AS SHOWN BY THE DRAWINGS EXCEPT FOR INSIDE DROP MANHOLES. FLOW CHANNELS FOR INSIDE DROP MANHOLES SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. MANHOLE FLOORS 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 MEET 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 4' 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 TYPE "A" AND STANDARD INSIDE DROP MANHOLES TYPE "A" SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES TYPE "A" SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.

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