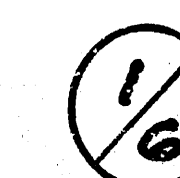
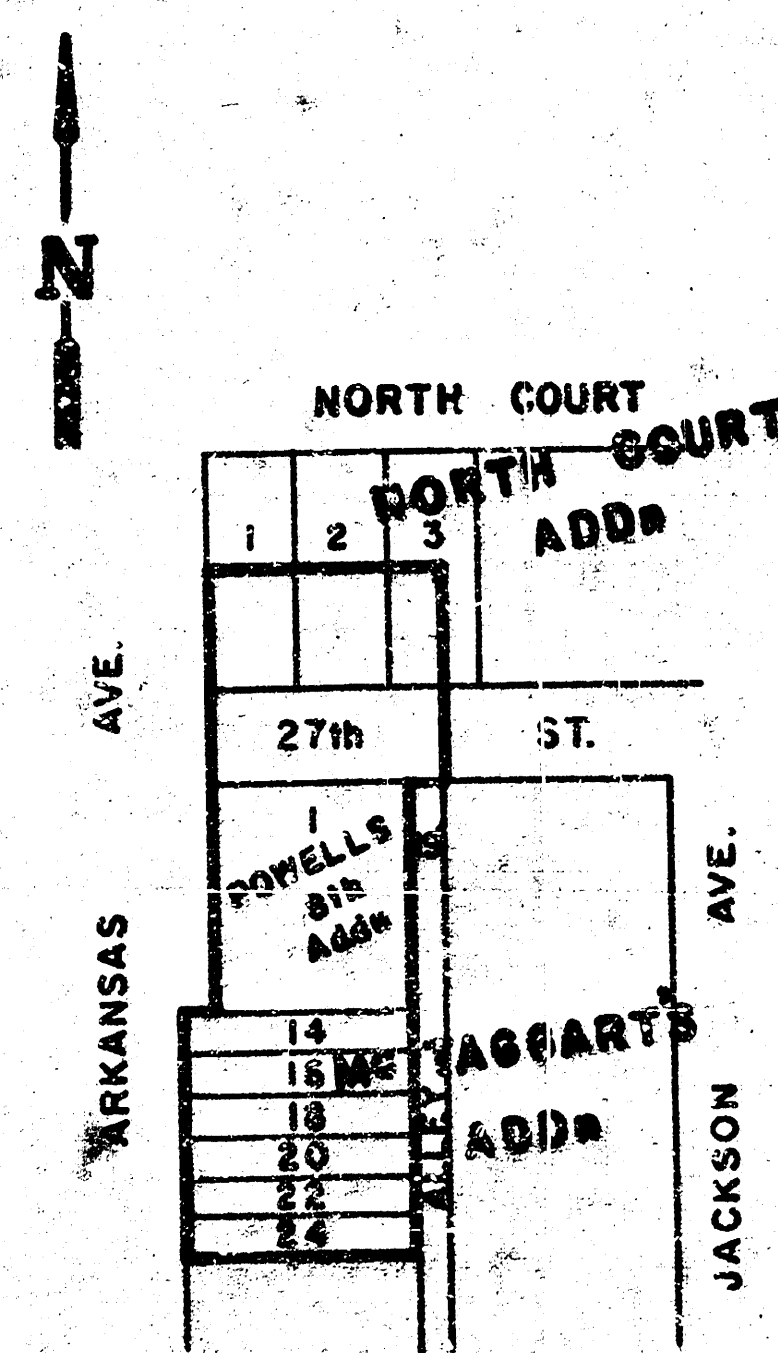


27th STREET NORTH
E.L. ARKANSAS AVE. TO 149'
E. OF E.L. ARKANSAS AVE.

CITY OF WICHITA, KANSAS
M.E. LINDEBAK CITY ENGINEER

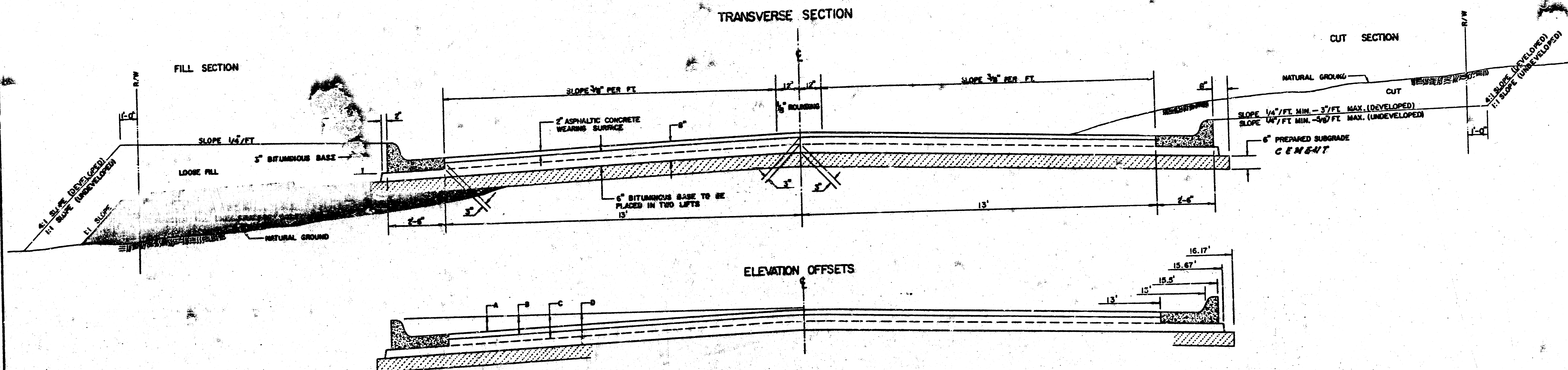
DATE:

PROJ. NO. 472 76 245 81274 000 000 001



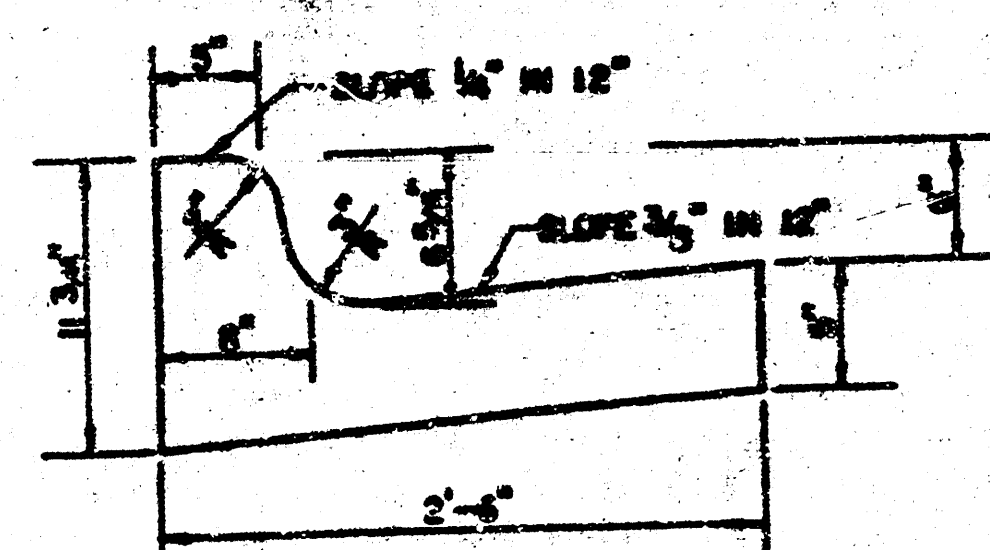
PROJECT DESCRIPTION 27th STREET NORTH E.L. ARKANSAS AVE. TO 149' E. OF E.L. ARKANSAS AVE.		
PROJECT NUMBER 472 76 245 81274 000 000 001		
BOOK NO. DWG 10	APPROVED BY	DATE
DRAWN BY	REVISOR	
CITY OF WICHITA DEPARTMENT OF ENGINEERING		
M.E. LINDEBAK CITY ENGINEER		SCALE

TYPICAL 31' PAVEMENT DETAILS

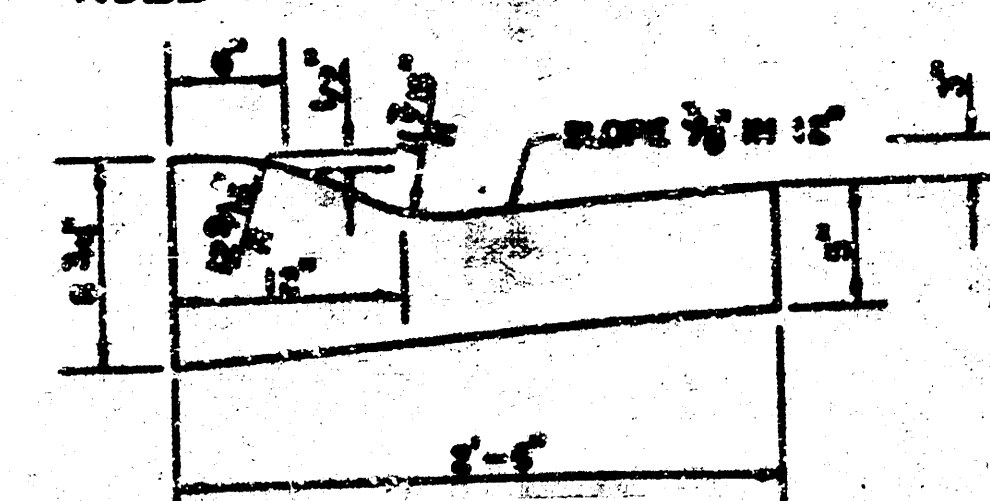


	DISTANCE FROM CENTERLINE (L & R)											
	0'	2'	4'	6'	7.5'	10'	12'	15'	15.5'	15.67'	16.17'	
A-TOP OF CURBS TO TOP OF SURFACE LIFT	.10	.14	.21	.27	.32	.36	.46	.49	—	—	—	
B-TOP OF CURBS TO TOP OF UPPER BASE LIFT	.27	.31	.37	.44	.48	.56	.62	.65	—	—	—	
C-TOP OF CURBS TO TOP OF LOWER BASE LIFT	.52	.56	.62	.69	.73	.81	.87	.90	.97	.98	.99	
D-TOP OF CURBS TO TOP OF SUBGRADE	.77	.81	.87	.94	.98	1.09	1.12	1.15	1.22	1.23	1.24	1.25

COMBINED CURB & GUTTER



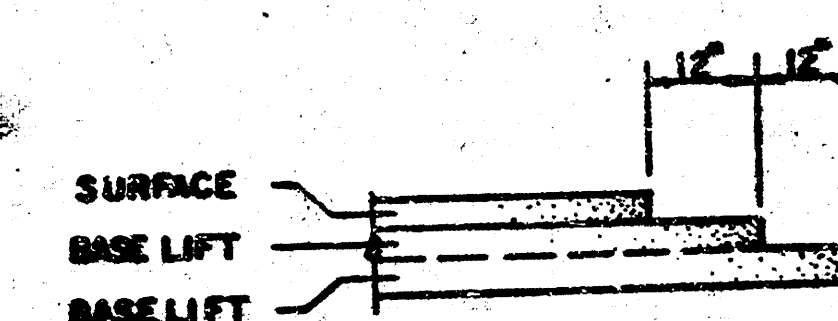
ROLL TYPE COMBINED CURB & GUTTER



GENERAL NOTES

- 1) THE ASPHALTIC CONCRETE PAVEMENT BETWEEN THE COMBINED CURB AND GUTTER SHALL BE PAID AS SQUARE YARDS OF 6" ASPHALTIC CONCRETE (6" BITUMINOUS BASE).
- 2) THE BITUMINOUS BASE UNDER AND BEHIND THE COMBINED CURB AND GUTTER SHALL BE PAID AS SQUARE YARDS OF 3" BITUMINOUS BASE.
- 3) A TACK COAT OF EMULSIFIED ASPHALT (SC-1H OR CSS-1H) SHALL BE APPLIED AT AN APPROXIMATE RATE OF 0.05 GALLONS PER SQUARE YARD BETWEEN EACH LIFT OF ASPHALTIC MATERIAL.
- 4) BITUMINOUS BASE AND ASPHALTIC CONCRETE WEARING SURFACE SHALL BE PLACED WITH A LAVERON MACHINE HAVING AUTOMATIC CONTROLS FOR LINE AND GRADE.
- 5) CONSTRUCTION JOINTS IN EACH LIFT SHALL BE STAGGERED A MINIMUM DISTANCE OF ONE (1) FOOT FROM JOINTS IN PREVIOUS LIFTS AND PLACED SO THAT A JOINT SHALL BE CONSTRUCTED BY THE CENTERLINE OF THE TOP LIFT.
- 6) CONTRACTOR TO BID ONLY ONE SURFACE TREATMENT PATTERN WHEN ALTERNATES ARE PROVIDED IN THE PROGRAM AND CONTRACT. THE ALTERNATE CHOSEN BY THE ENGINEER SHALL BE USED IN CONSTRUCTING THIS PROJECT.

TRANSVERSE CONSTRUCTION JOINTS

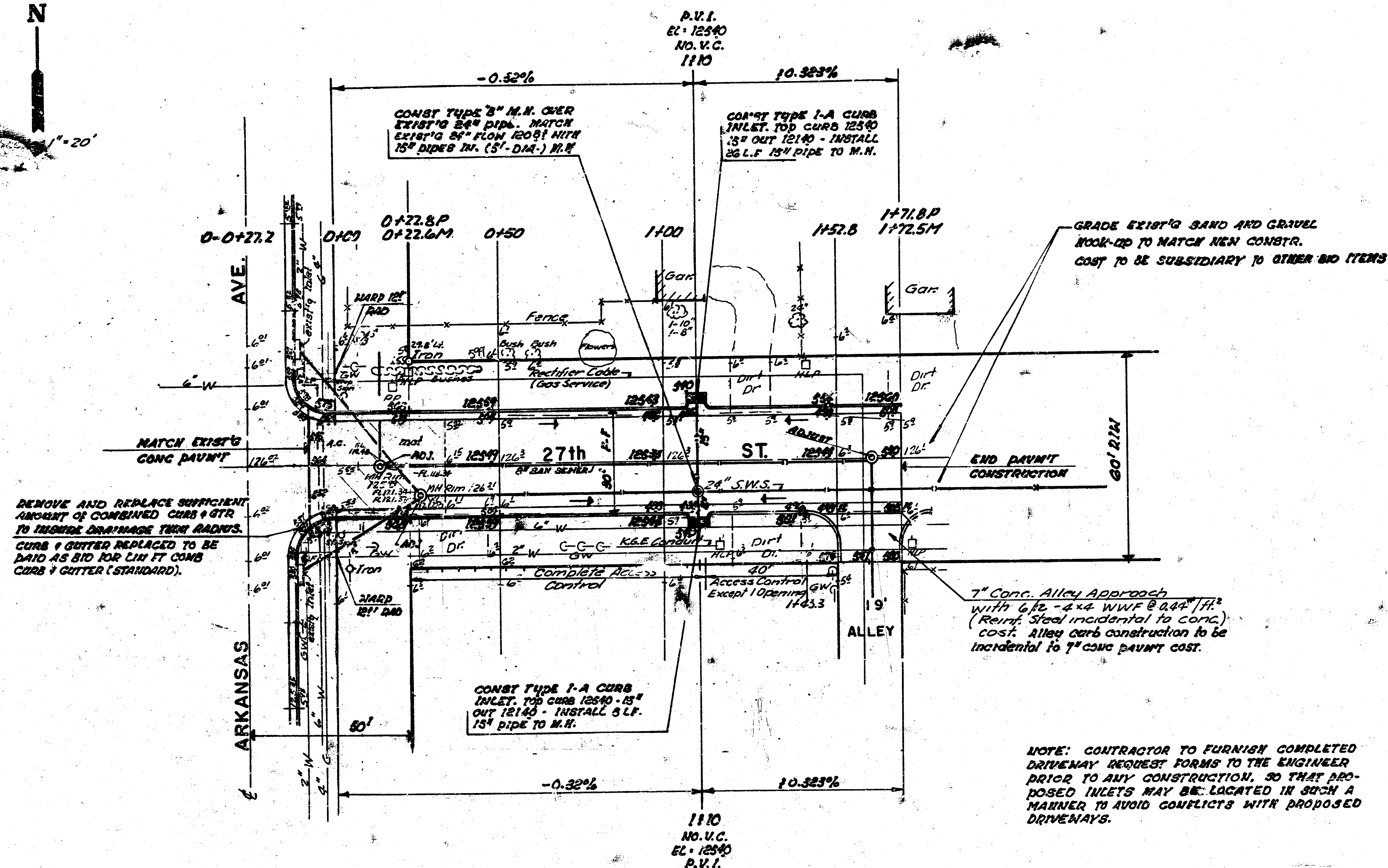
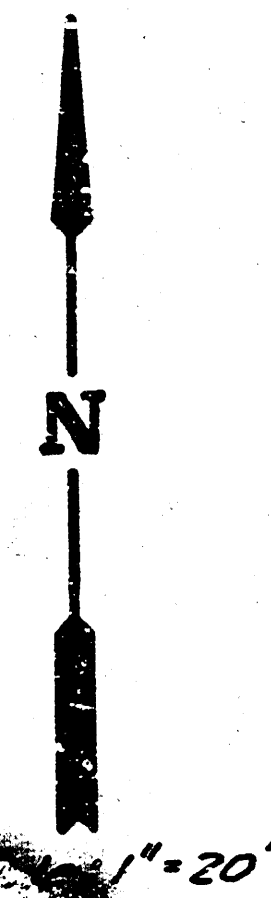


TRANSVERSE CONSTRUCTION JOINTS SHALL BE CONSTRUCTED IN FLEXIBLE BASE PAVEMENTS AT LOCATIONS WHERE PAVEMENT JOINTS EXISTING FLEXIBLE BASE PAVEMENT AS SHOWN BY THE DETAIL. ALL COSTS ASSOCIATED WITH THE CONSTRUCTION OF THE TRANSVERSE JOINT SHALL BE INCLUDED IN THE BID PRICE FOR SQUARE YARDS OF 6" ASPHALTIC CONCRETE (6" BITUMINOUS BASE).

8 INCH RESIDENTIAL ASPHALTIC CONCRETE
PAVEMENT WITH 6 INCH BITUMINOUS BASE
CITY OF WICHITA, KANSAS
PROJECT NUMBER
472 76 245 81274 000 000 001

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B.M. 127.63 City Std. Disc 40' S. 32' W. of E. both Arkansas & 25th St. N.
B.M. 125.78 " M.E. Cor. 27th & Arkansas on Top Curb



REMOVE AND REPLACE SUFFICIENT AMOUNT OF COMBINED CURB & GTR TO INSURE DRAINAGE THEN RADIOS. CURB & GUTTER REPLACED TO BE PAID AS BID FOR 121 FT COMB CURB & GUTTER (STANDARD).

GRADE EXIST'G SAND AND GRAVEL BROOK-UP TO MATCH NEW CONSTR. COST TO BE SUBSIDIARY TO OTHER BID ITEMS

7" Conc. Alley Approach With 6" to 4" x 4" WIRE & 4" x 4" (Rein. Steel incidental to conc.) cost. Alley curb construction to be incidental to 7" conc. pavmt cost.

NOTE: CONTRACTOR TO FURNISH COMPLETED DRIVEWAY REQUEST FORMS TO THE ENGINEER PRIOR TO ANY CONSTRUCTION, SO THAT PROPOSED INLETS MAY BE LOCATED IN SUCH A MANNER TO AVOID CONFLICTS WITH PROPOSED DRIVEWAYS.

NOTE: ALL SENER WORK TO CONFORM WITH THE CITY OF WICHITA STANDARD SENER SPECIFICATIONS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR SHALL 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.

INTERSECTION QUANTITIES	
22.2 S.Y.	6" Concrete Pavement
18.0 S.Y.	6" Asphaltic Conc. Pavement (6" Bituminous Base)
18.0 S.Y.	6" Bituminous Base
68.0 L.F.	Combined Curb & Gutter
	L.F. Integral Curb
	S.F. 4" Wheelchair Ramp
	S.F. 4" Walk
43.9 C.Y.	Excavation
	C.Y. Compacted Fill
	Lbs. Reinforcing Steel
112.5 S.Y.	Manipulation
2.8 Tons	Lime or Cement
	S.Y. V.G. Concrete & Asphaltic Concrete Base

Earthwork	
Excavation	
PRPE	CITY
894.8 C.Y.	18.1 C.Y.
+10.1% 89.8	+10.1% 1.8
Total 984.7 C.Y.	Total 19.9 C.Y.

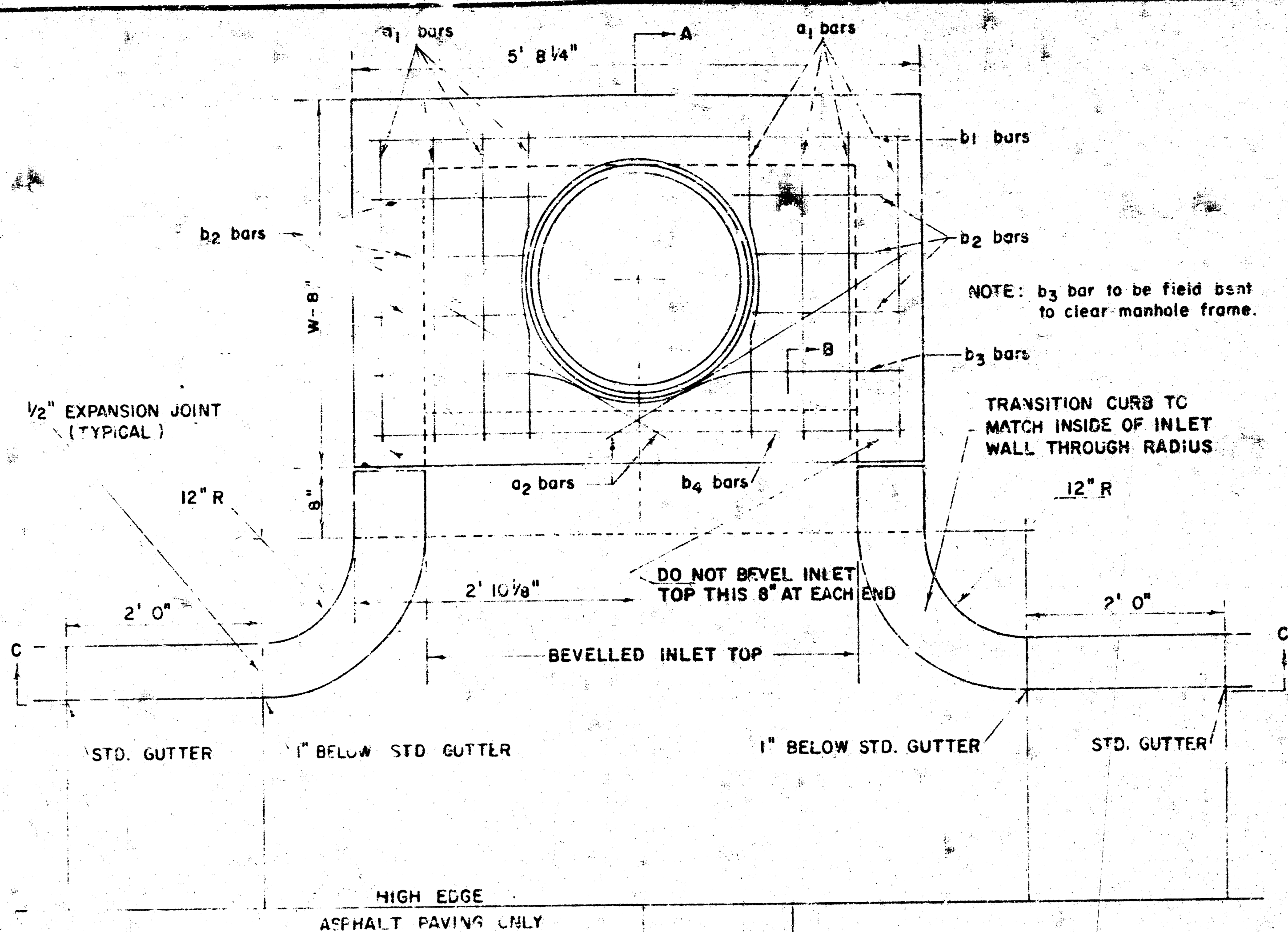
NOTE: ASPHALT MAT REMOVED TO BE PAID AS GR. FOR EXCAVATION.

Total Manipulation = 685 S.Y.

PROJECT DESCRIPTION	
27th STREET NORTH E.L. ARKANSAS AVE. TO 149' E. OF E.L. ARKANSAS AVE.	
PROJECT NUMBER	
472 76 245 31274 000 000 001	
BOOK NO. DWY 10	APPROVED BY
DRAWN BY T.E. THIEB	DATE
CITY OF WICHITA DEPARTMENT OF ENGINEERING	
M.E. LINDEBAK CITY ENGINEER	SCALE

3/6

3/6



PLAN (SCALE 1" = 1' 0")

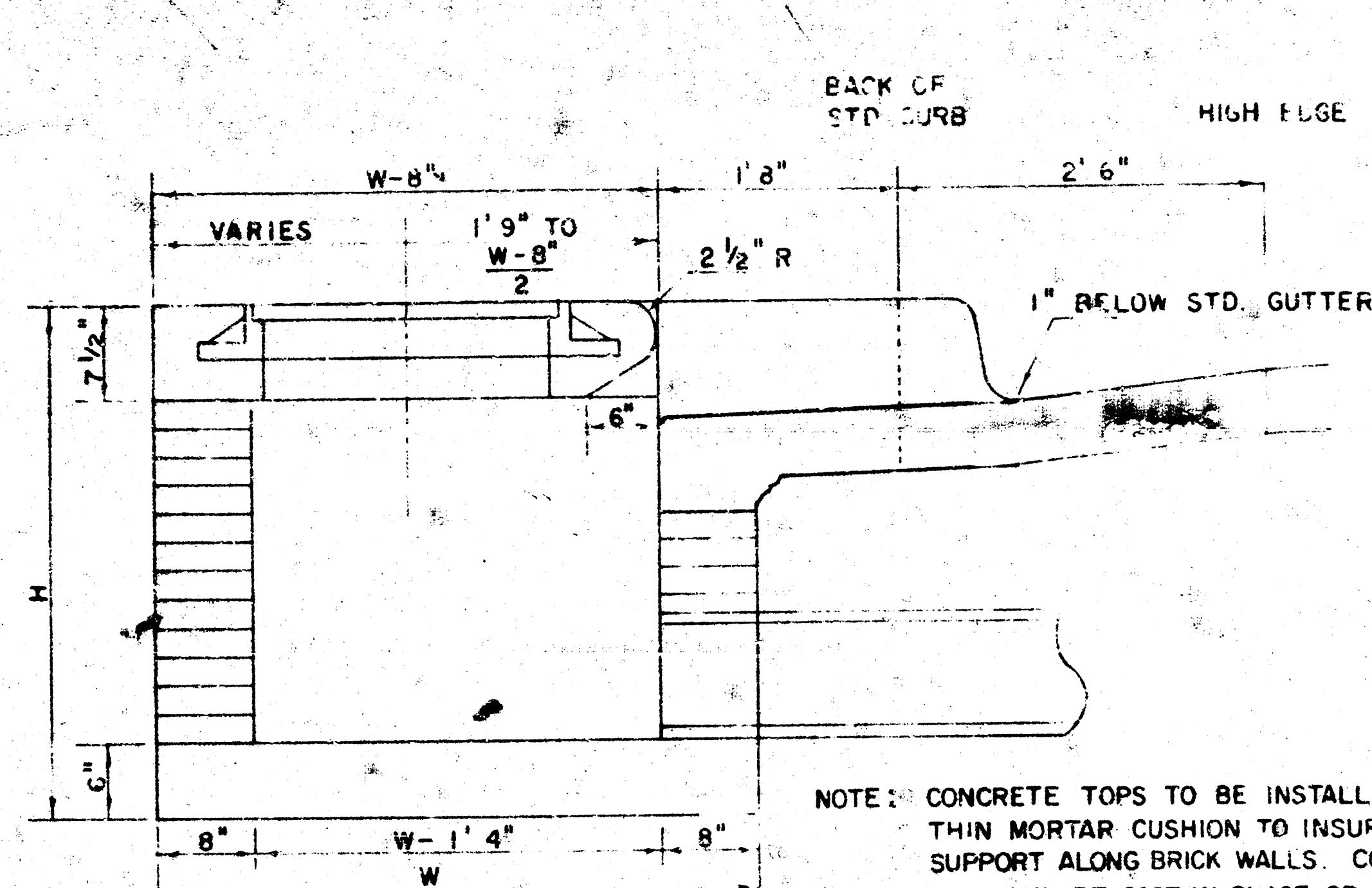
BAR	a ₁	a ₂	b ₁	b ₂	b ₃	b ₄	WT. LBS.
NUMBER	8	8	8	8	8	8	
SIZE	4	4	4	4	4	4	
W	4' 2"	5' 5"	5' 5"	5' 5"	5' 5"	5' 5"	60 *
L	5' 0"	8' 1"	4' 4"	5' 5"	5' 5"	5' 5"	77 *
W	6' 0"	10' 1"	5' 4"	5' 5"	5' 5"	5' 5"	97 *
L	7' 0"	11' 1"	6' 4"	5' 5"	5' 5"	5' 5"	111 *
W	8' 0"	12' 1"	7' 4"	5' 5"	5' 5"	5' 5"	124 *

* NOTE: a₂ BARS TO BE PLACED APPROX. 2" BELOW TOP OF INLET COVER

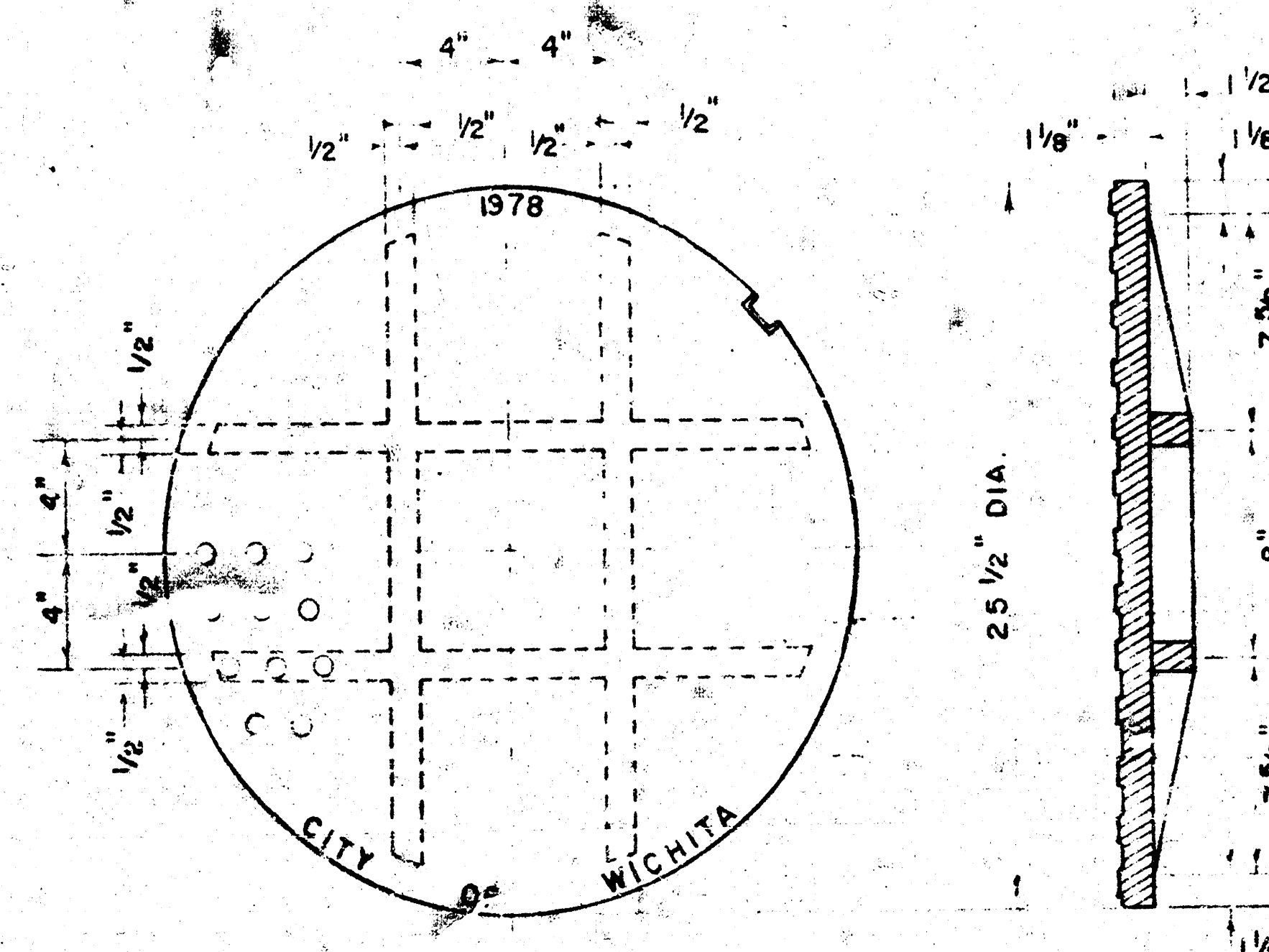
BENDING DIAGRAM

W	PRE-CAST TOP SIZE	PIPE SIZE	CU. YD. CONC.
4' 2"	36" x 5' 8 1/4" x 7 1/2"	21" & SMALLER	0.46 *
5' 0"	44" x 5' 8 1/4" x 7 1/2"	24" & 30"	0.57 *
6' 0"	54" x 5' 8 1/4" x 7 1/2"	36" & 42"	0.71 *
7' 0"	64" x 5' 8 1/4" x 7 1/2"	48" & 54"	0.84 *
8' 0"	74" x 5' 8 1/4" x 7 1/2"	60" & 66"	0.97 *

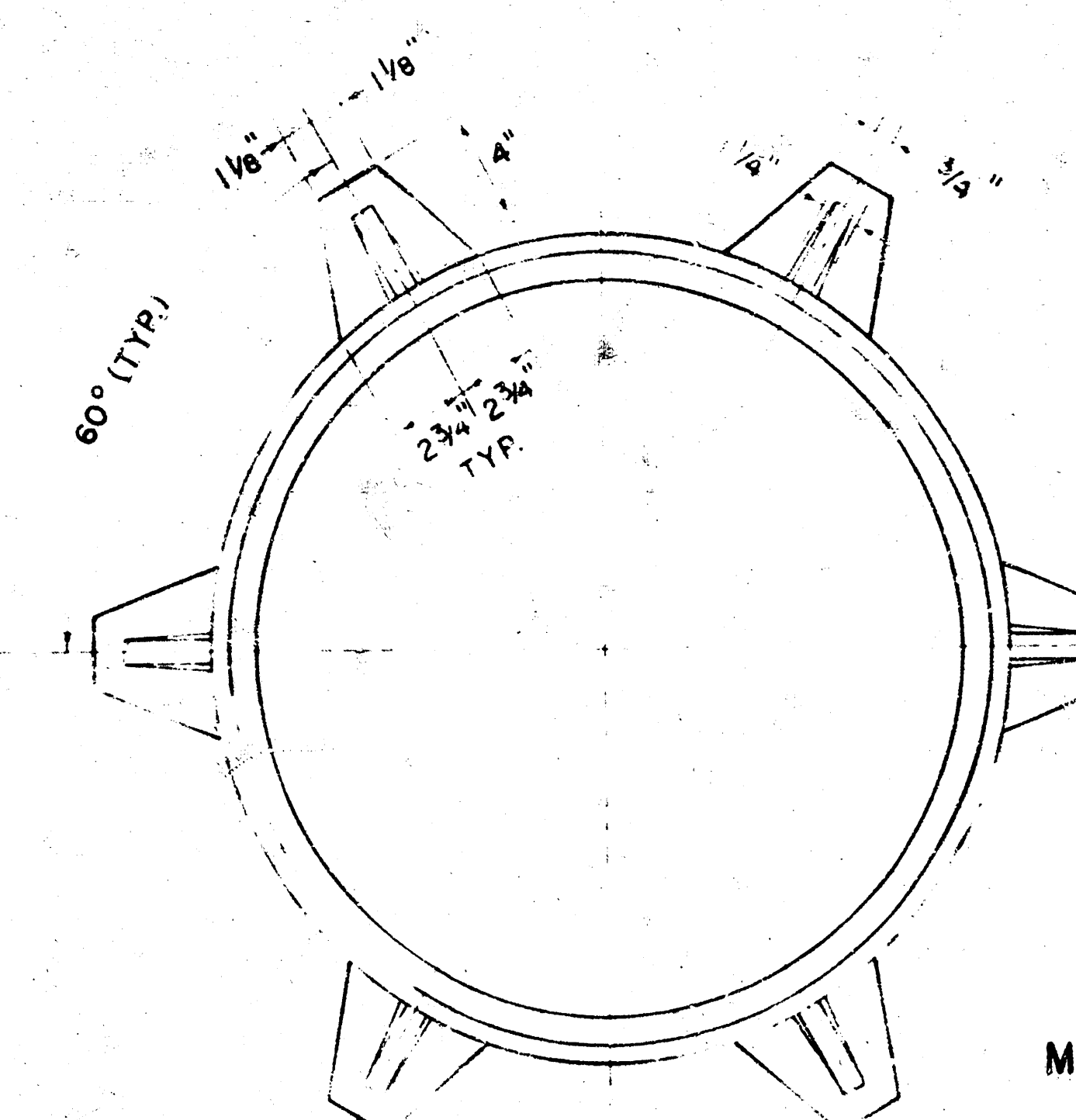
* GROSS VOLUME



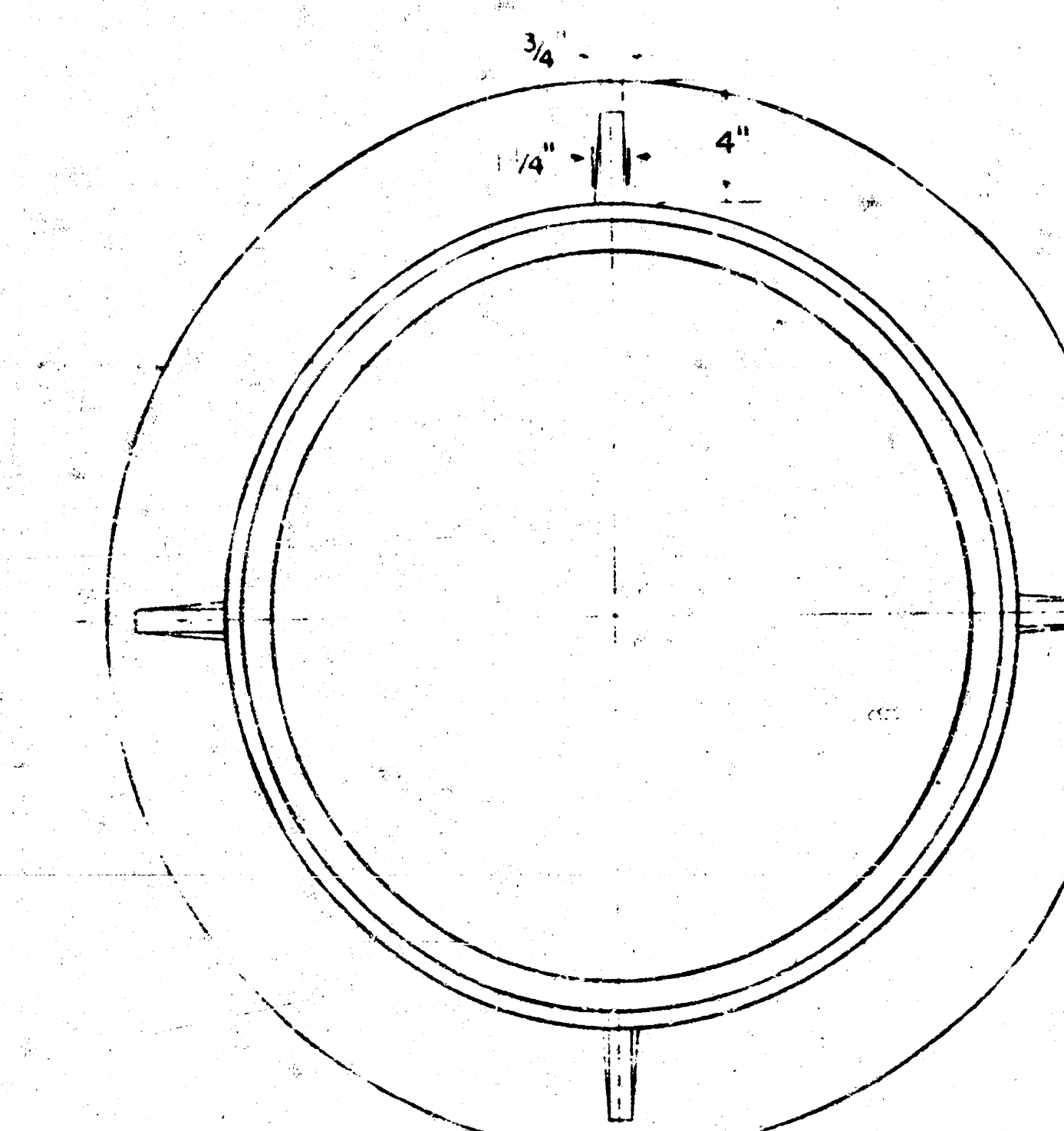
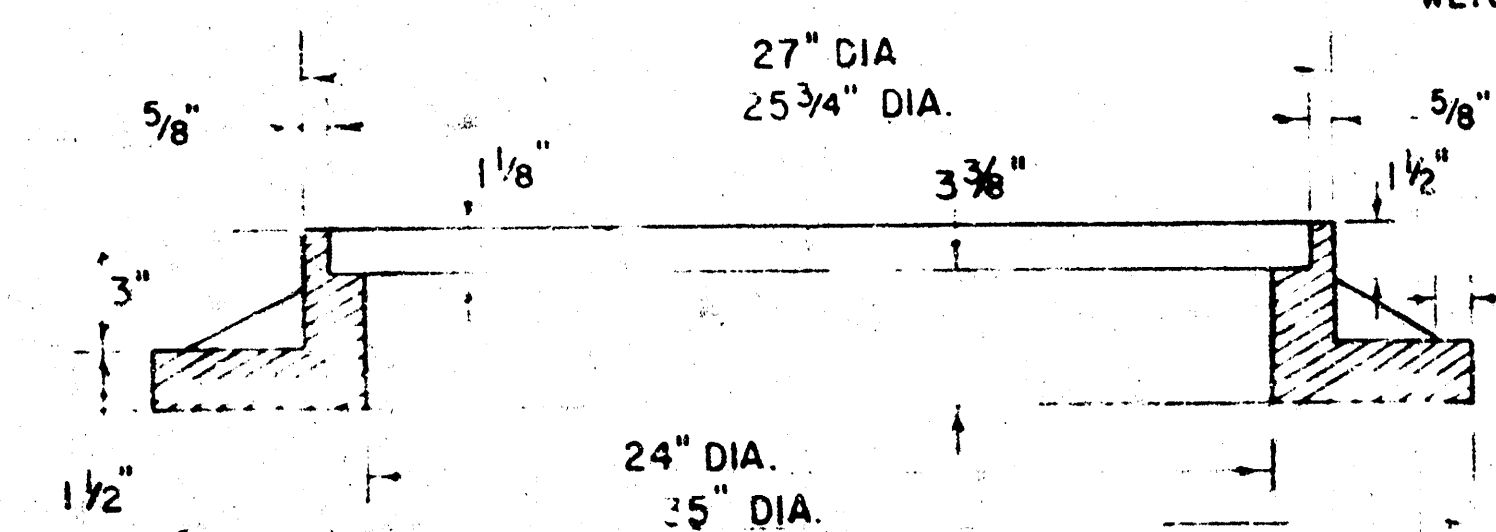
SECTION A-A (SCALE 1" = 1' 0")



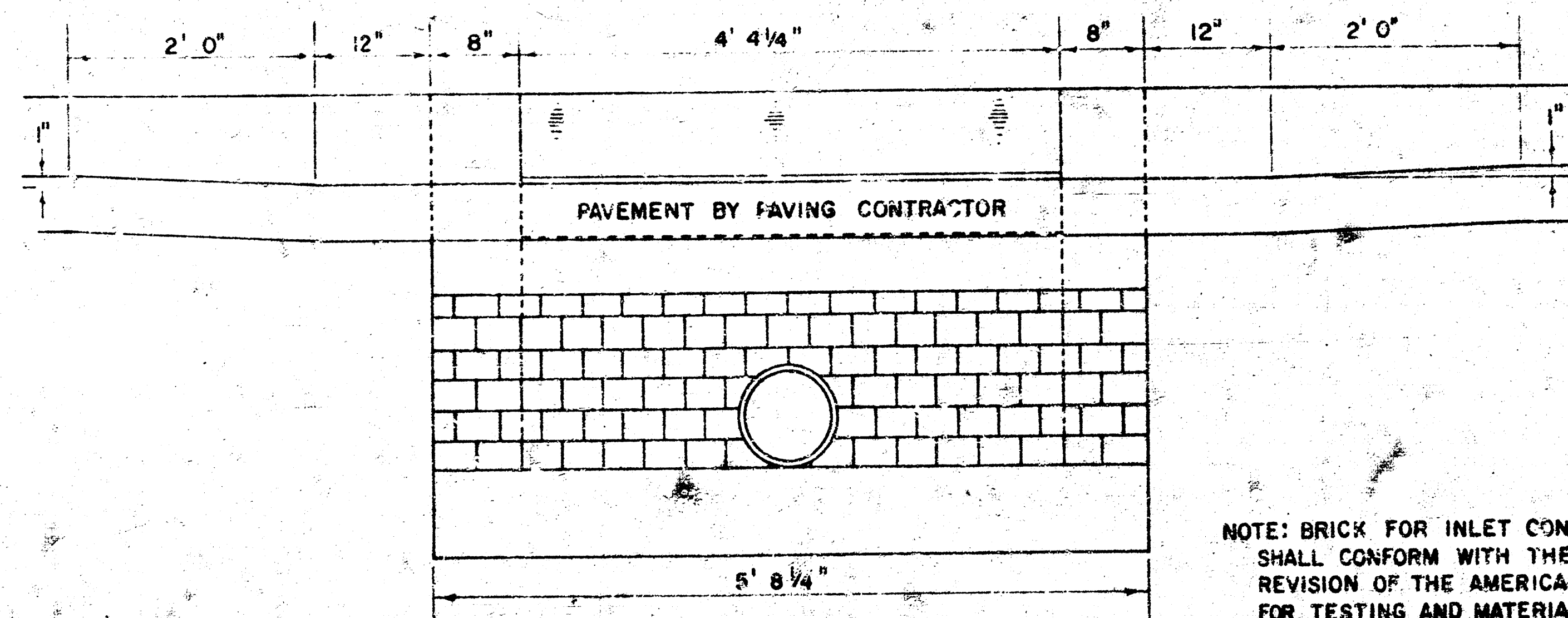
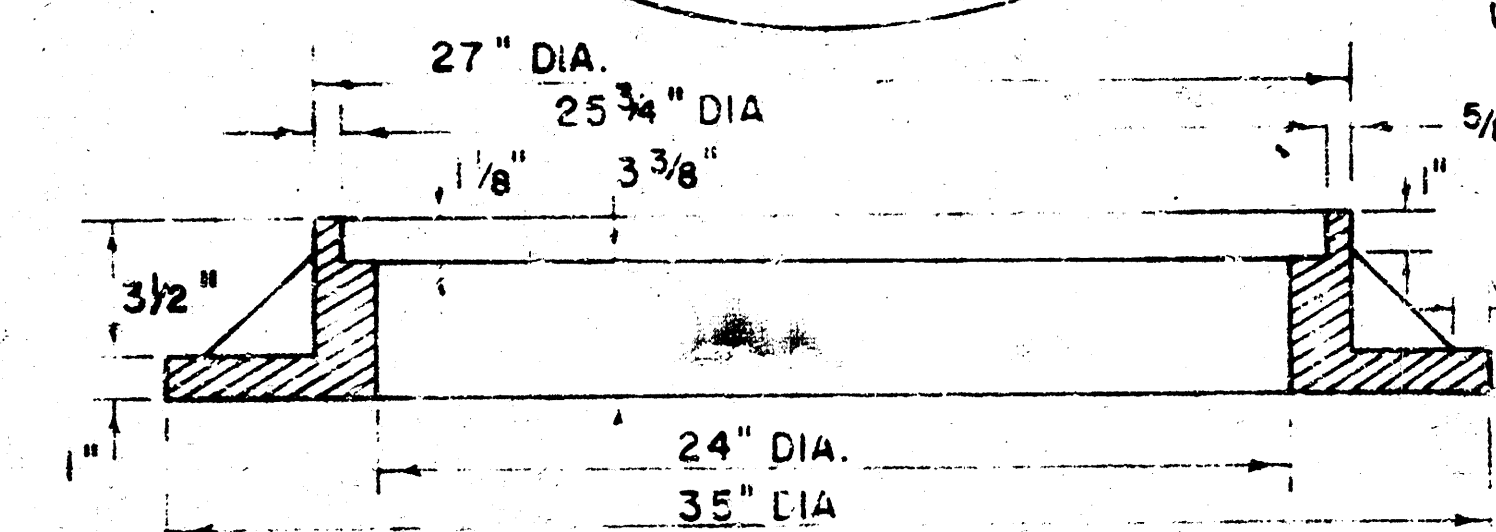
MANHOLE COVER (SCALE 1" = 6")
WEIGHT = 170 LBS.



MANHOLE FRAME (SCALE 1" = 6")
WEIGHT = 180 LBS.

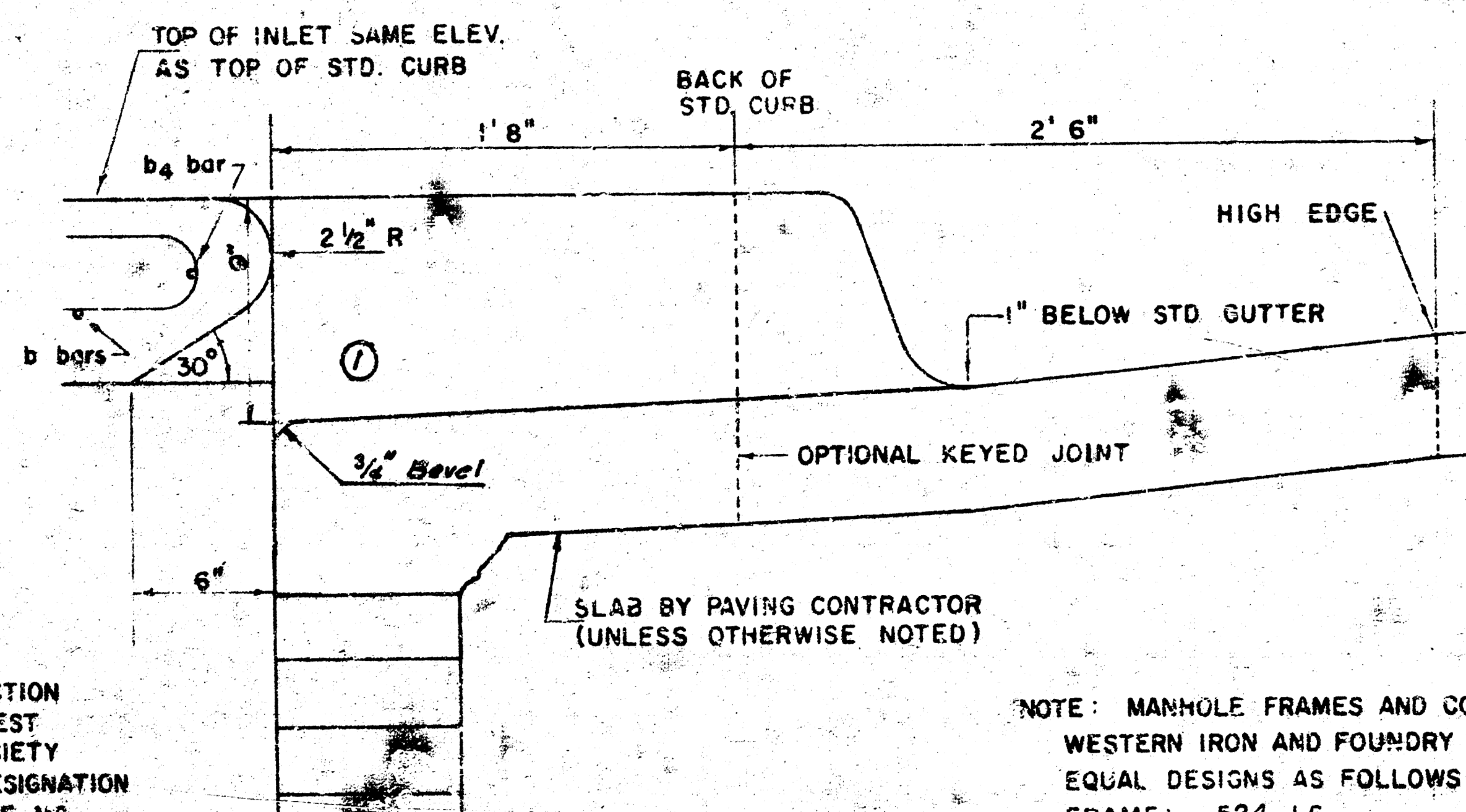


MANHOLE FRAME (ALTERNATE) (SCALE 1" = 6")
WEIGHT = 180 LBS.



SECTION C-C (SCALE 1" = 1' 0")

NOTE: BRICK FOR INLET CONSTRUCTION SHALL CONFORM WITH THE LATEST REVISION OF THE AMERICAN SOCIETY FOR TESTING AND MATERIALS DESIGNATION C-32 FOR MANHOLE BRICK GRADE NS.



SECTION B-B (SCALE 1" = 6")

NOTE: MANHOLE FRAMES AND COVER ARE WESTERN IRON AND FOUNDRY CO. INC. OR EQUAL DESIGNS AS FOLLOWS:
FRAME: 524-L6
FRAME (ALTERNATE): 500-A4
COVER: 222-S4 "NOBBY"

DETAIL STANDARD TYPE IA CURB INLET
CITY OF WICHITA, KANSAS
M.E. LINDEBAK CITY ENGINEER

JUNE, 1981

SEWER APPURTENANCES DETAILS

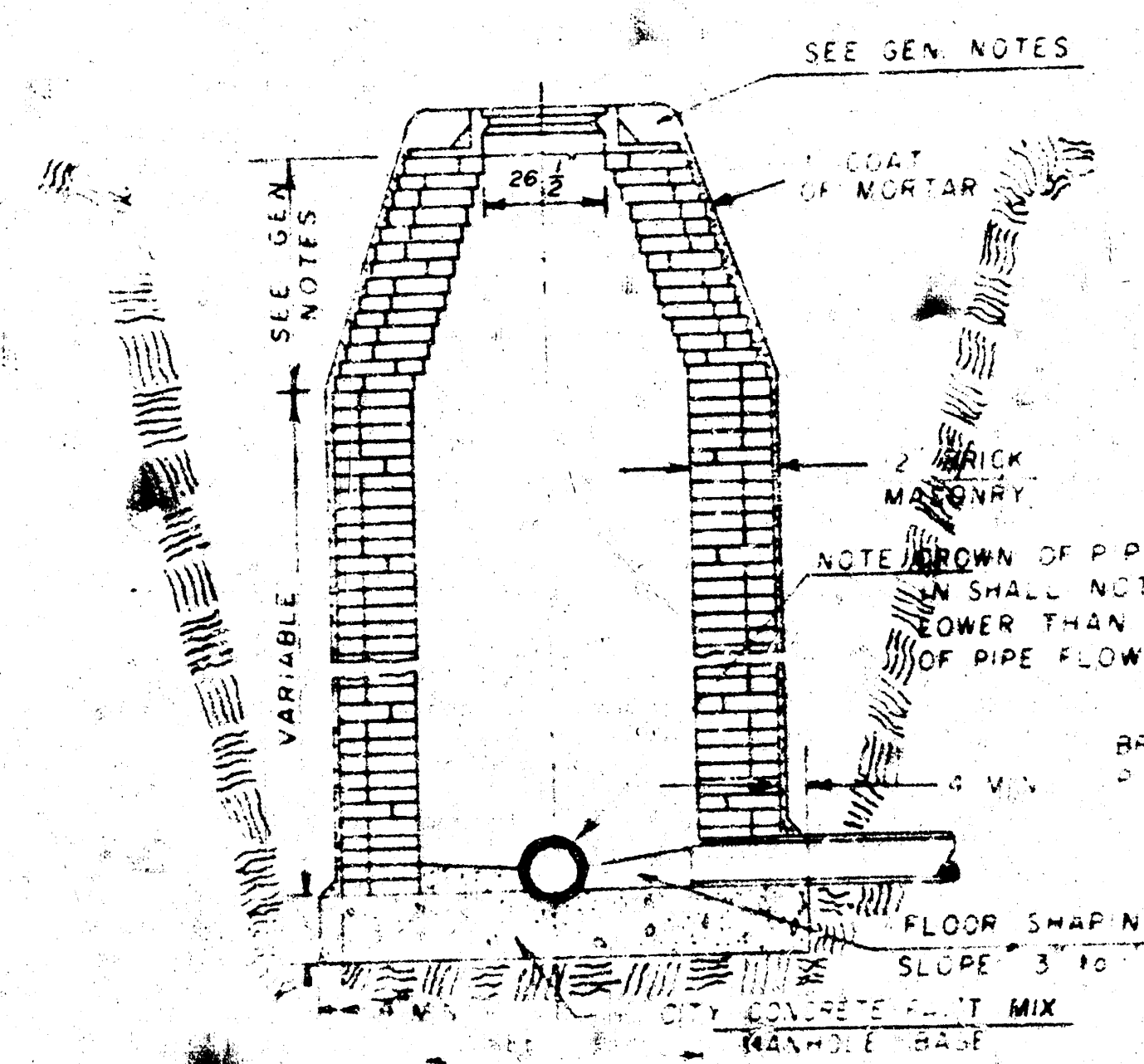
ADOPTED AS STANDARD DESIGN

BY

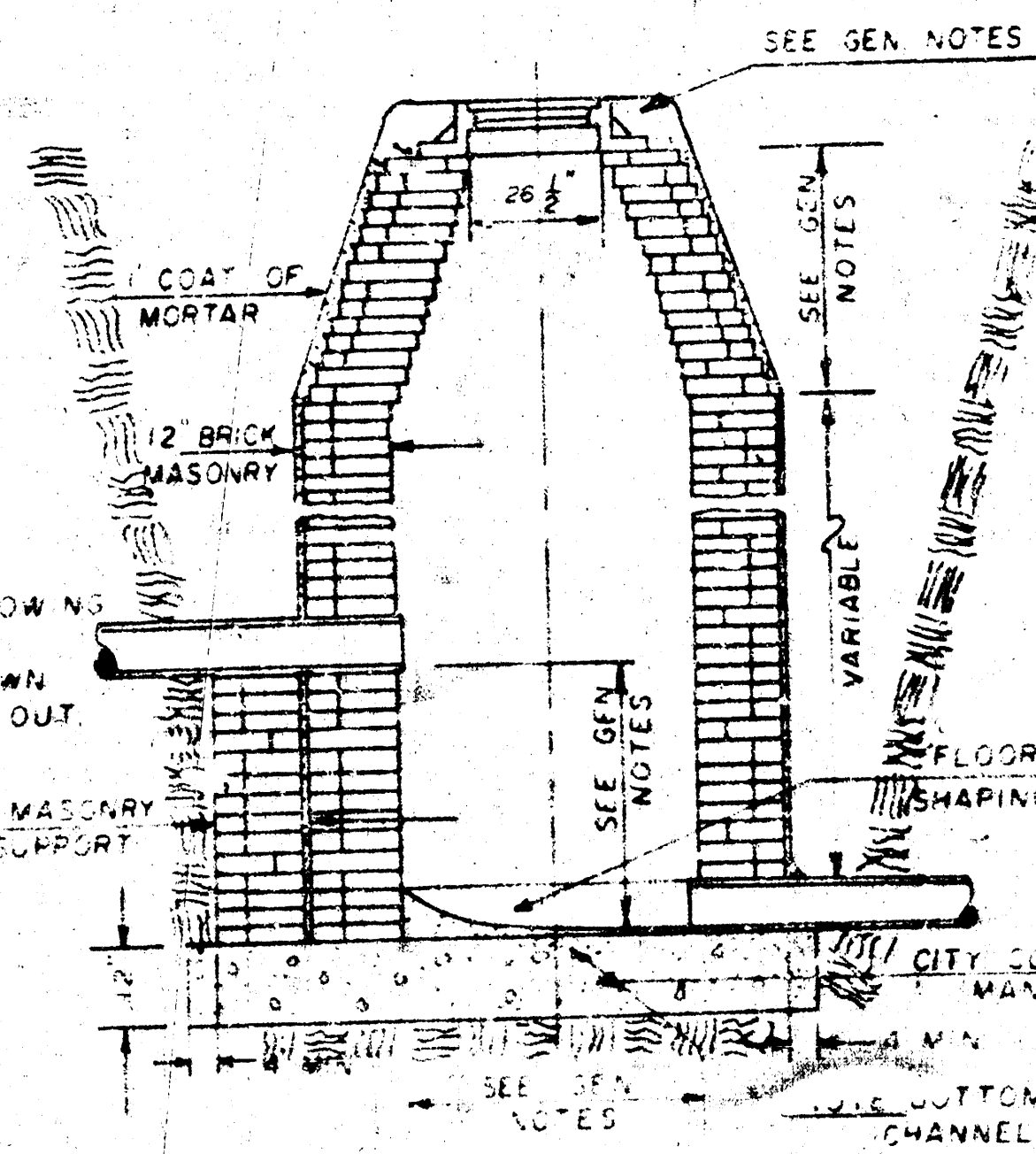
City of Wichita, Kansas

REVISED MAY 1981
REVISED JAN. 1982

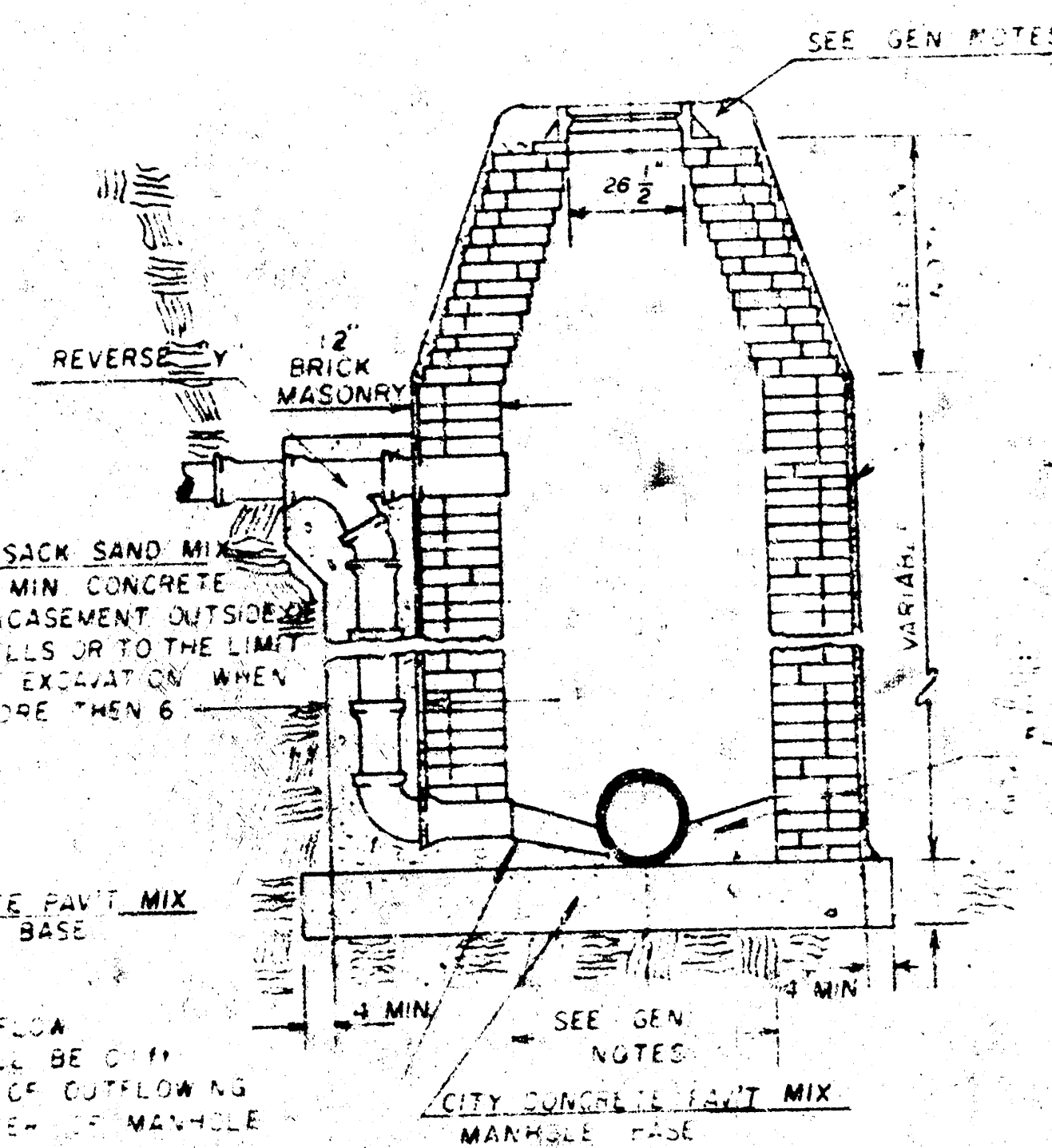
TYPE "B" MANHOLE



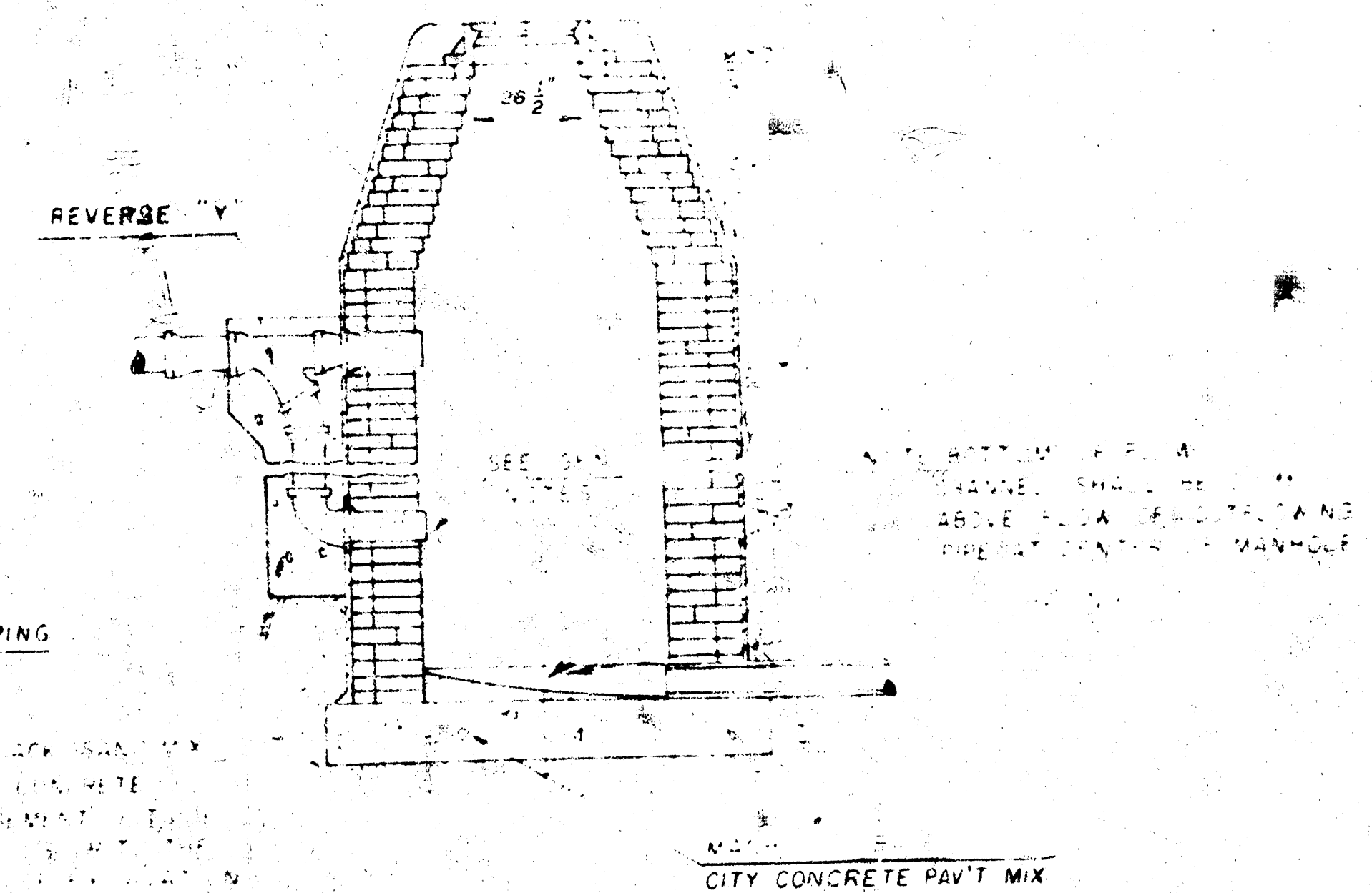
TYPE "B" INSIDE DROP MANHOLE



TYPE "B" OUTSIDE DROP MANHOLE



DETAIL OF OUTSIDE DROP
CONSTRUCTED ON EXISTING MANHOLE



GENERAL NOTES

- MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 2 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 "B" MANHOLES CAN BE USED ON SEWERS HAVING DEPTHS GREATER THAN 16' OR WHEN THE MANHOLE IS LOCATED IN 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.P.C. AND A.B.S. COMPOSITE PIPE. THE NEW PIPE SHALL BE GROUTED INTO THE OPENING USING AN APPROVED NONSHRINKING 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 CHANNELS FOR THE NEW CONNECTION AS INDICATED BY THE DRAWINGS. 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 THE REPAIR 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. 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 PIPES.
- STANDARD MANHOLES TYPE "B" AND STANDARD INSIDE DROP MANHOLES TYPE "B" SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES TYPE "B" SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.

5/6

5/6


$$\frac{6}{6}$$