STORM WATER SEWER NO. 148

GENERAL NOTES

1. FLAP-GATES TO BE INSTALLED ARE ARMCO MED. DUTY FLAP GATES FOR HEADS TO 20 FEET OR APPROVED EQUAL.

2. SLUICE-GATES SHALL BE ARMCO MEDIUM DUTY SLUICE GATES, MODEL 50-10, A ROUND OPENING WITH NAVEL BRONZE SEATING FACES, FLAT BACK, CPE 4 LIFT WITH STEM COVER AND COUNTER, 1½" DIA. STAINLESS STEEL STEM, 2 STEM GUIDES (1A), STEM SPLICE (STAINLESS), 8" F TYPE WALL THIMBLE, OR APPROVED EQUAL.

3. ALL METAL PIPES SHALL BE HELICALLY CORRUGATED METAL PIPES FOR SIZES 21" IN DIAMETER (OR EQUIVALENT ARCH PIPE) OR SMALLER, AND FULLY PAVED CORRUGATED METAL PIPE FOR SIZES 24 INCHES IN DIAMETER (OR EQUIVALENT ARCH PIPE) OR LARGER, EXCEPT AS FOLLOWS:

   a.) 48" C.M.P. SHALL BE FULLY COATED, FULLY PAVED, 12 GA. CORRUGATED METAL PIPE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS EXCEPT AS FOLLOWS:

   JOINTS SHALL BE WATER-TIGHT USING ARMCO HUGGER BANDS WITH O-RINGS GASKETS OR APPROVED EQUAL.

   b.) 48" R.C.P. SHALL BE CLASS II IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS EXCEPT AS FOLLOWS:

   JOINTS SHALL BE WATER-TIGHT USING CONFINED O-RING TYPE JOINTS WITH CONCRETE SURFACES WITH A GROOVE ON THE SPIGOT FOR THE O-RING RUBBER GASKET.

4. FILTER ROCK: AN 18-INCH ANNULAR THICKNESS OF SELECT FILL SHALL BE PROVIDED AROUND THE TOP AND BOTH SIDES OF THE PIPES FOR A DISTANCE OF 22 FT. FROM THE INLET END. THIS FILTER MATERIAL SHALL BE A SAND AGGREGATE MEETING THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE SIZE	% PASSING
3/8"	100
NO. 4	95-100
NO. 16	45-80
NO. 50	10-30
NO. 100	0-5

5. BACKFILL: EXCAVATED LEVEE MATERIAL SHALL BE BACKFILLED OVER THE 2-48" LEVEE STRUCTURE. THIS MATERIAL SHALL BE COMPACTED TO AT LEAST 70% RELATIVE DENSITY CONFORMING TO SPECIFICATION ASTM D 2049-69.

6. TYPE 3 RIP-RAP SHALL BE 12" RIP-RAP ON 6" SAND AND GRAVEL BEDDING. THE ROCK FOR RIP-RAP AND GRAVEL PROTECTION SHALL BE HARD, DENSE, DURABLE AND SHALL BE REASONABLY WELL GRADED. THE SIZE RANGE OF ROCK FOR RIP-RAP SHALL HAVE A MAXIMUM SIZE OF ONE CUBIC FOOT AND A MINIMUM SIZE OF ½ INCH. THE 6 INCH SAND AND GRAVEL BEDDING SHALL BE A CONTINUOUS LAYER OF SAND AND GRAVEL OR SAND AND CRUSHED ROCK, REASONABLY WELL GRADED TO A MAXIMUM OF 1½ INCH IN SIZE.

7. TYPE 4 RIP-RAP SHALL BE 18" RIP-RAP ON 6" SAND AND GRAVEL BEDDING. THE ROCK FOR RIP-RAP AND GRAVEL PROTECTION SHALL BE HARD, DENSE, DURABLE, AND SHALL BE REASONABLY WELL GRADED. THE SIZE RANGE OF ROCK USED SHALL HAVE A MAXIMUM SIZE OF 1/8 CUBIC YARD AND A MINIMUM SIZE OF 1/10 CUBIC FOOT. THE 6 INCH SAND AND GRAVEL BEDDING FOR RIP-RAP SHALL BE A CONTINUOUS LAYER OF SAND AND GRAVEL OR SAND AND CRUSHED ROCK, REASONABLY WELL GRADED TO A MAXIMUM OF 1½ INCH IN SIZE.

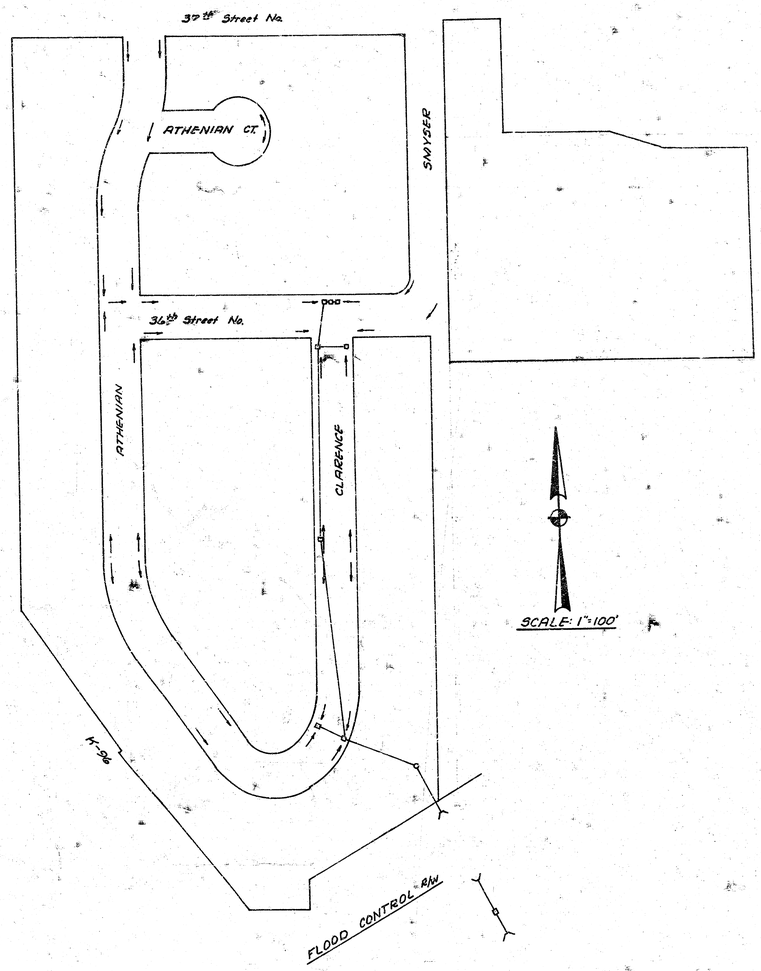
8. LOCATION OF CURB INLETS TO BE DETERMINED FROM BACK-OF-CURB LOCATION AS SHOWN ON STREET PAVING PLANS. ALL CURB INLETS TO BE TYPE I-A. SEE PAVING PLANS FOR STREET LAYOUT.

9. CONTRACTOR TO COORDINATE WORK WITH PAVING AND SANITARY CONTRACTORS.

10. CONTRACTOR TO COORDINATE THEIR WORK EFFORTS WITH UTILITY COMPANIES, AND OTHER AGENCIES RELATED WITH THE PROJECT SITE DEVELOPMENT.

11. FIELD ENGINEER SHALL TAKE TIES TO ALL IRONS AND THIMBLES WHICH MAY BE DESTROYED. FIELD ENGINEER SHALL REPLACE ALL IRONS AND THIMBLES AS EXISTED PRIOR TO CONSTRUCTION.

12. ALL CONCRETE UNLESS OTHERWISE NOTED SHALL BE "6-SACK CONCRETE".



SCALE: 1"=100'

DEAN SELLERS, ACTING CITY ENGINEER

CITY OF WICHITA, KANSAS

PROJECT NO. 468-76-245-80664-000-000-001

DATE: _____

SWS#148 Sheet 1 of 10

B.M. 135.515 #3801 N. Clarence, S.E. Cor. Conc. Porch.
B.M. 184.58 "a" cut in N.E. cor. bridge on K-96 over the Big Ditch.
B.M 136.71 "a" cut in N.E. cor. walk to Michener School.

TOE DRAIN DETAILS

TRENCH DETAIL

RISER DETAIL

ROCK TOE
No Scale

Rock Toe will not be paid for directly but will be considered as subsidiary to the bid item for Rip-Rap.

CHISHOLM CREEK DIVERSION

WICHITA VALLEY CENTER FLOOD CONTROL

NOTE: Mean Sea Level (MSL) = City Datum + 1187.4

Earthwork Limit Line

Flap Gates

Constr. Double 48" Pipes @ 5'4" c/s.

Remove 450'± fence within Flood Control R/W
Replace 450'± fence along N.L. Flood Control R/W

Replace Fence along this line.

Lot 19, Blk. 3
Lot 20, Blk. 3 Sharp-Nett Addition
Lot 21, Blk. 3
Lot 22, Blk. 3
Lot 9, Blk. 2

Sta. 4+16.91
Constr. Type IA Curb Inlet
w = 5'0", Top = 132.47
Street Sta. 13+54

Sta. 4+94.95
Constr. Type A Manhole, Dia. = 5'0"
w/ Beehive Cover

Iron, 12.5' Rt. Sta. 4+05.91

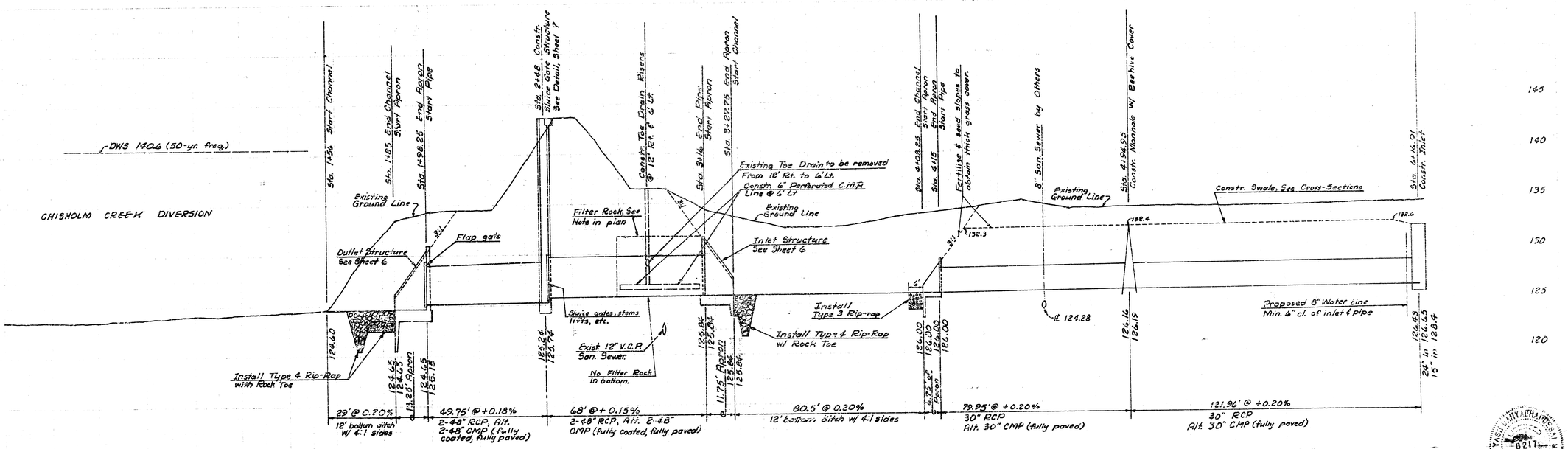
Iron, 3.8' Rt Sta. 4+32.75

Iron

SNYDER

CLARENCE

Scale: 1" = 20'



SWS #148 Sheet 2 of 10

Scale: HOR: 1"=20'
VERT: 1"=5'

Iron, Street Sta. 12+78.19

Install 39' of 15" Pipe
USFL 128.8 ; DSFL 128.4

Constr. Type 1A Curb Inlet, w=4'2"
Top 132.45, Street Sta. 13+54

Remove fence as required

Iron, Street Sta. 14+09.11

Sta. 9+12
Constr. Type 1A Curb Inlet, w=5'0"
Top 133.54 Street Sta. 14+40

Install 24" Pipe, See Sheet 4

Install 24" Pipe

℄ CLARENCE

35' @ 8%

65' @ 4%

Iron, Street Sta. 14+09.11

Sta. 6+16.91
Constr. Inlet, See Sheet 2
Street Sta. 13+54

Install 30" Pipe
See Sheet 2

Sta. 6+16.91
Constr. Inlet
Top El. 132.47

Sta. 9+12
Constr. Type 1-A Curb Inlet
Top El. 133.54

Ground Line

℄ Proposed Top of Lt. Curb

30" out 126.43
24" in 126.63

24" out 127.24
24" in 127.29

295.09' – 24" RCP @ 0.2%
Alt. 295.09' – 24" CMP (fully paved) @ 0.2%

140
135
130
125

126.82
127.02
127.22

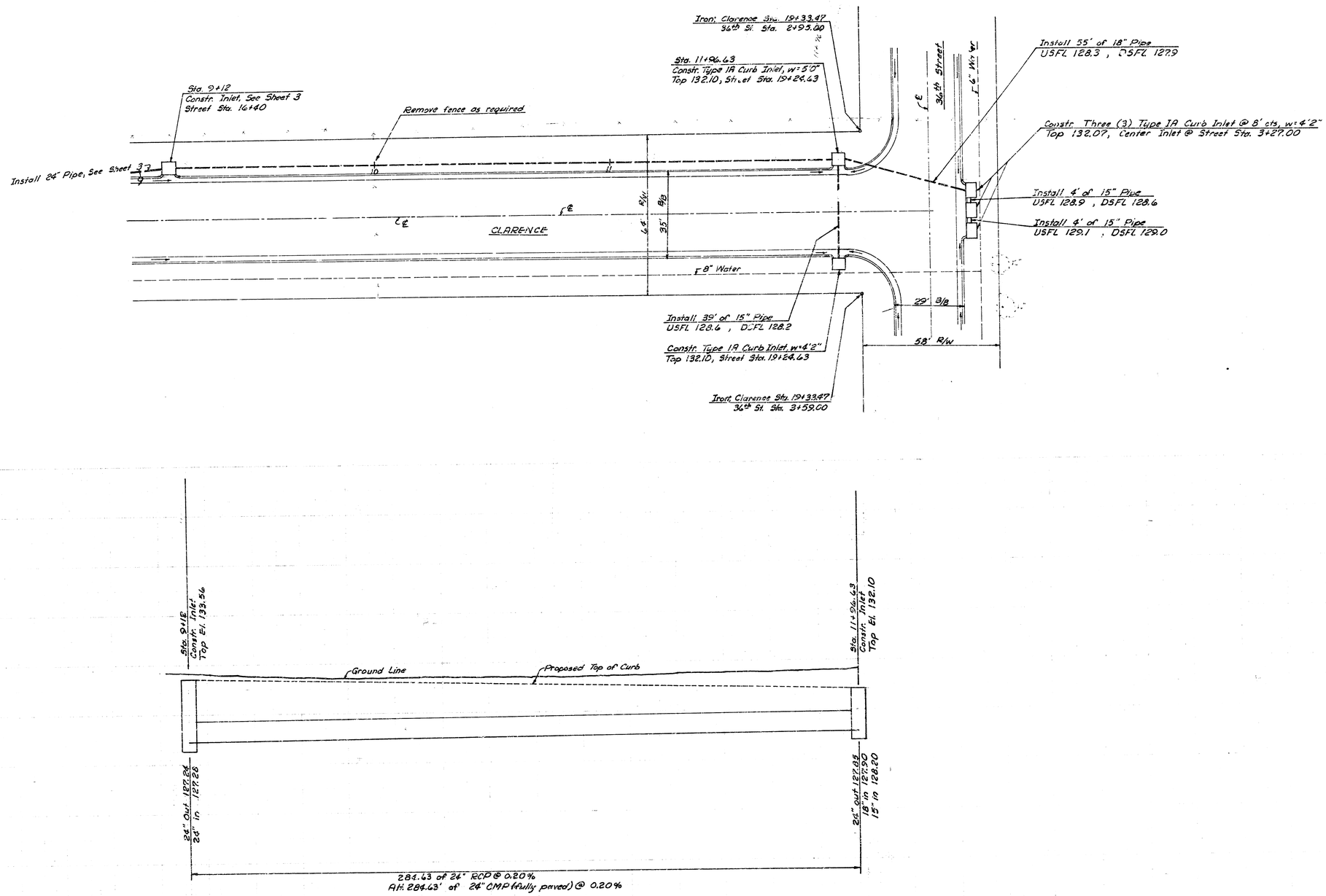
6 7 8 9 10

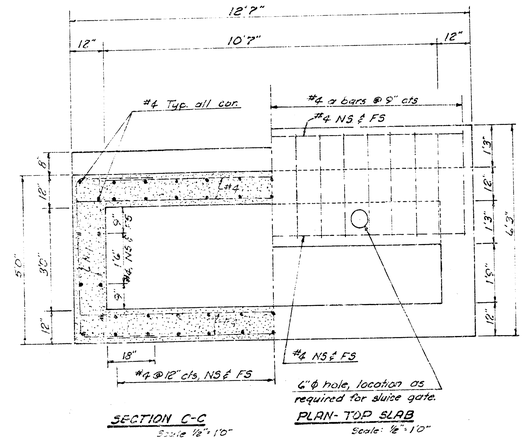
SWS # 148 Sheet 3 of 10

B.M. 135.74 Top of sign post approx. 5' S. of S.L. of 36th St. No. and is approx. on ℄ Smyser.

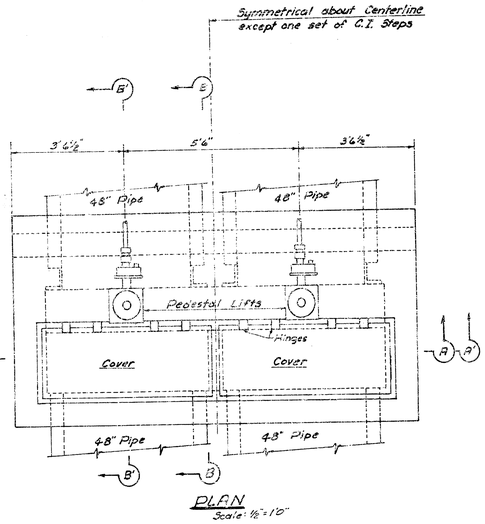
B.M. 135.53 S.E. Cor. front conc. porch @ 3801 N. Clarence.

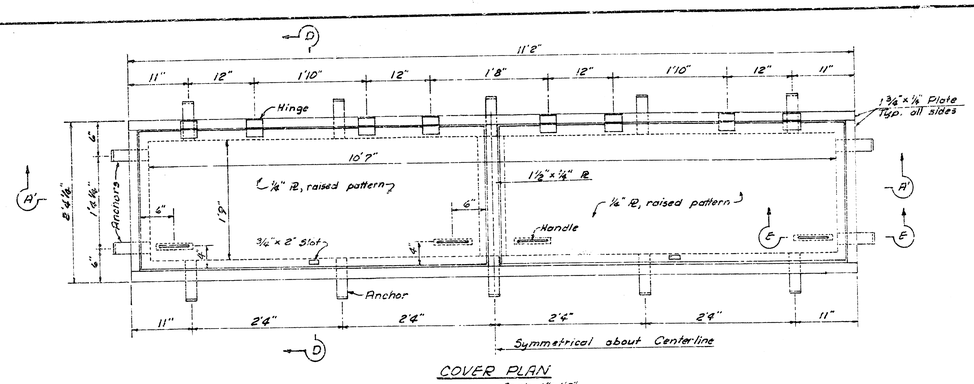
Scale: 1"=20'

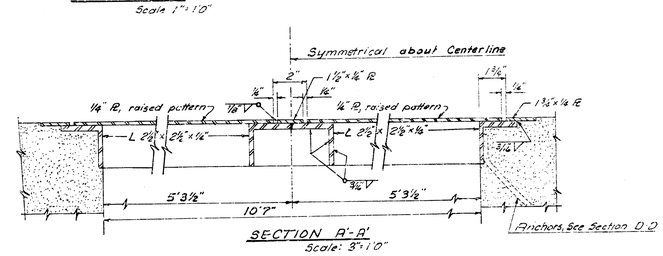


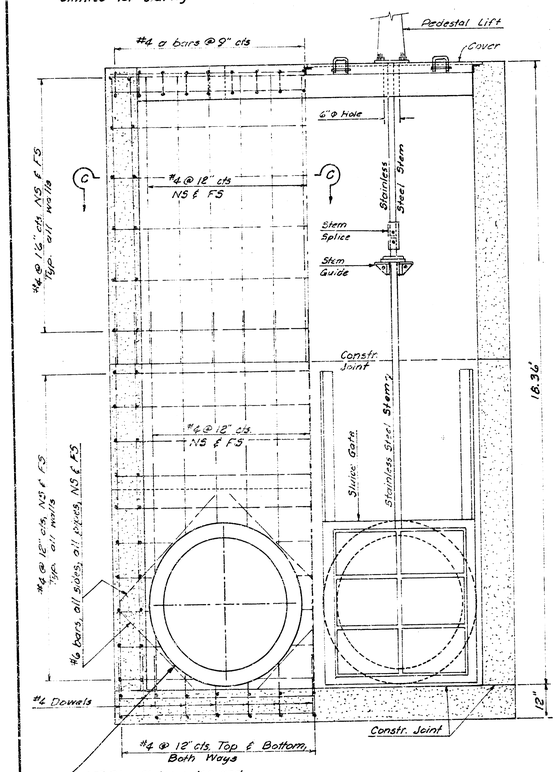


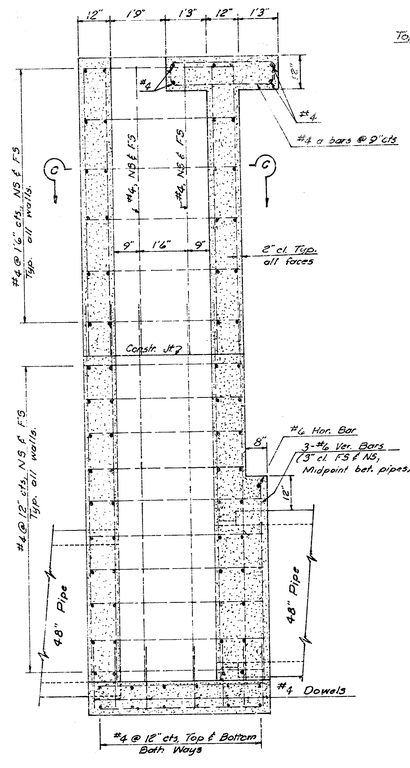
Note: PIPE & Gate details are omitted for clarity

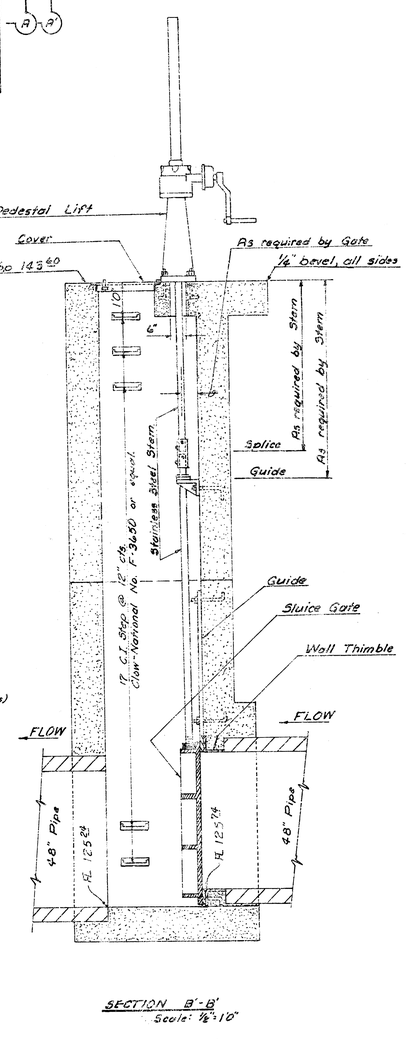


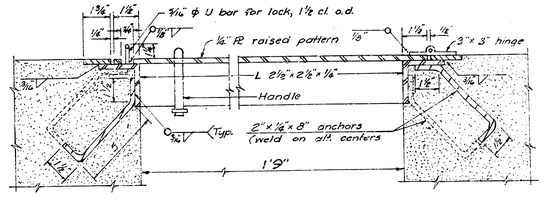


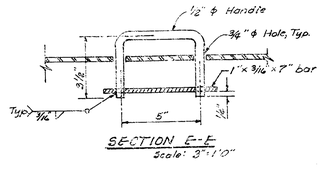


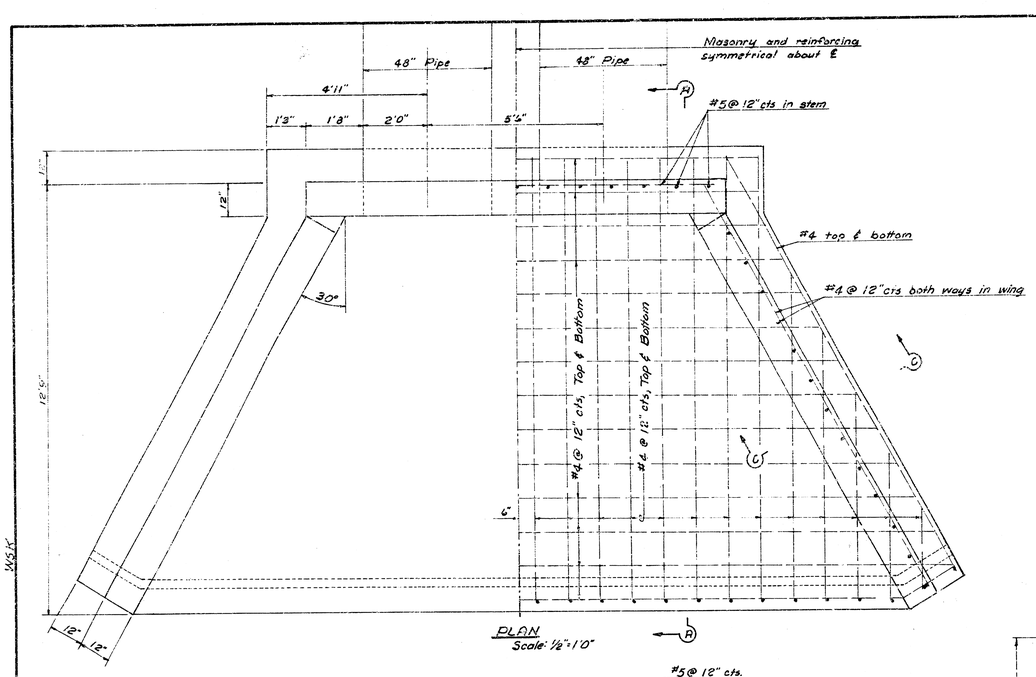


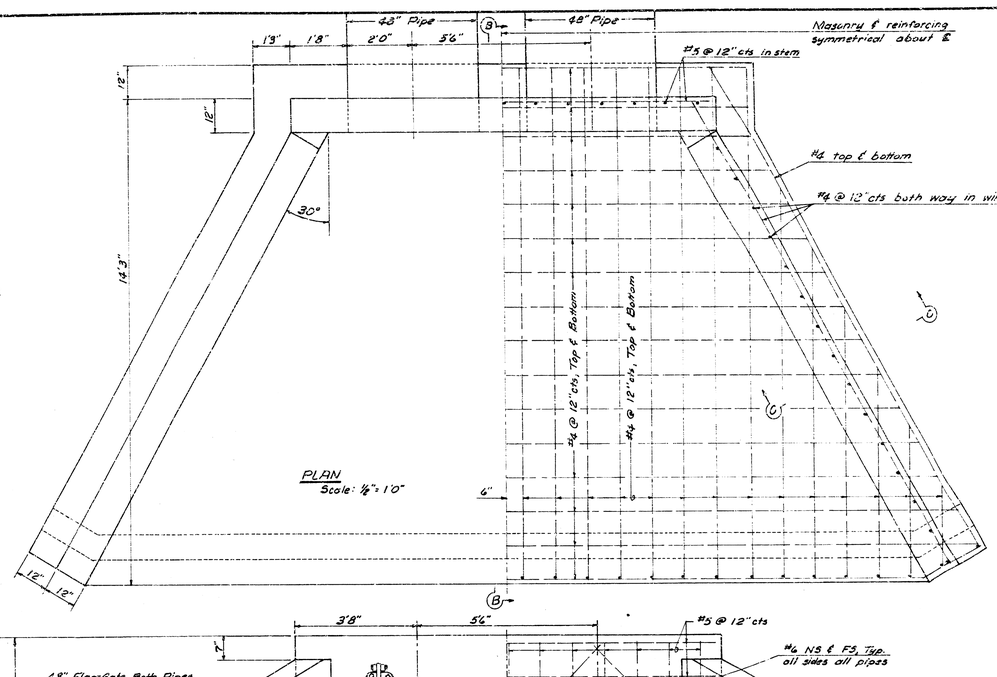


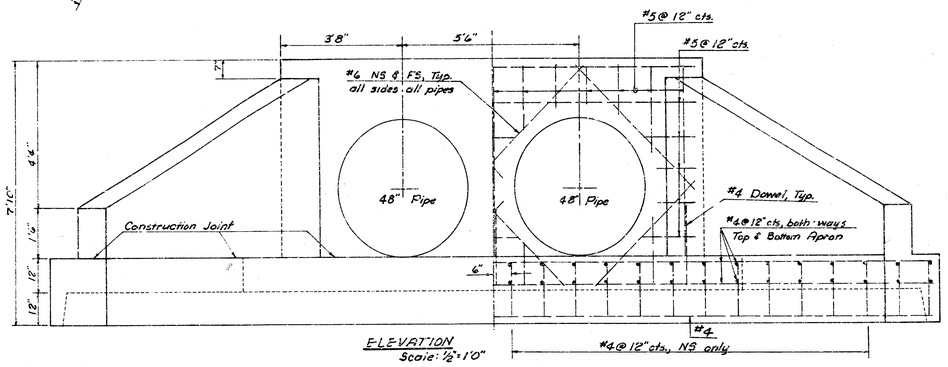


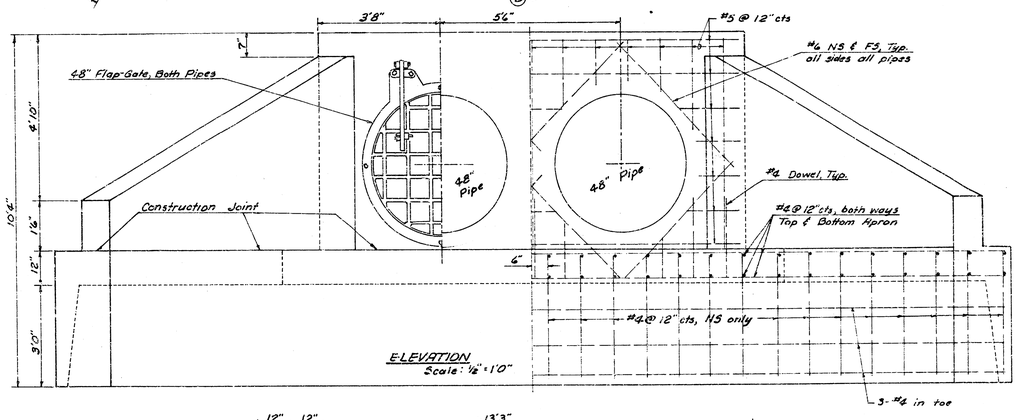


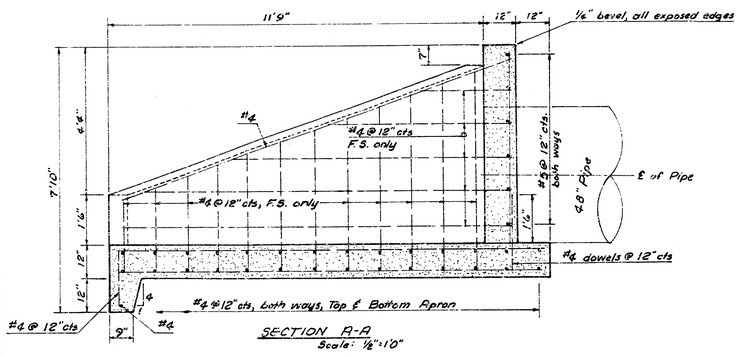


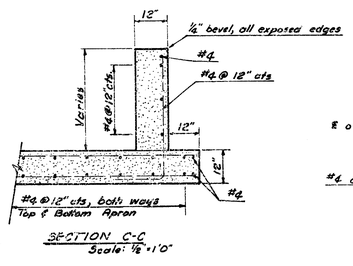


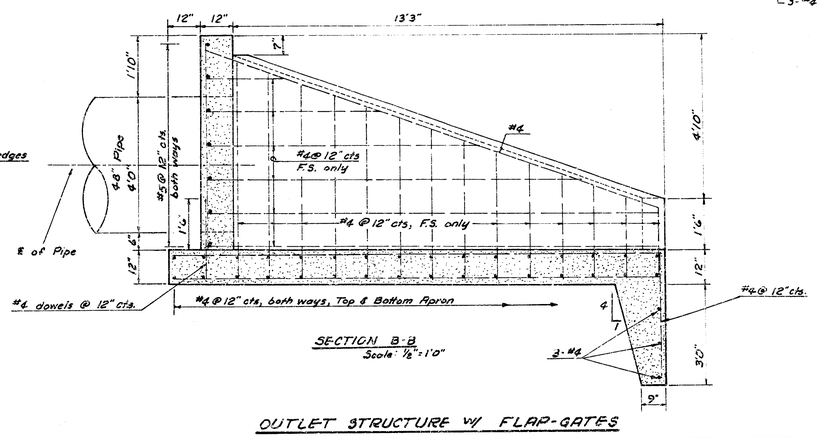






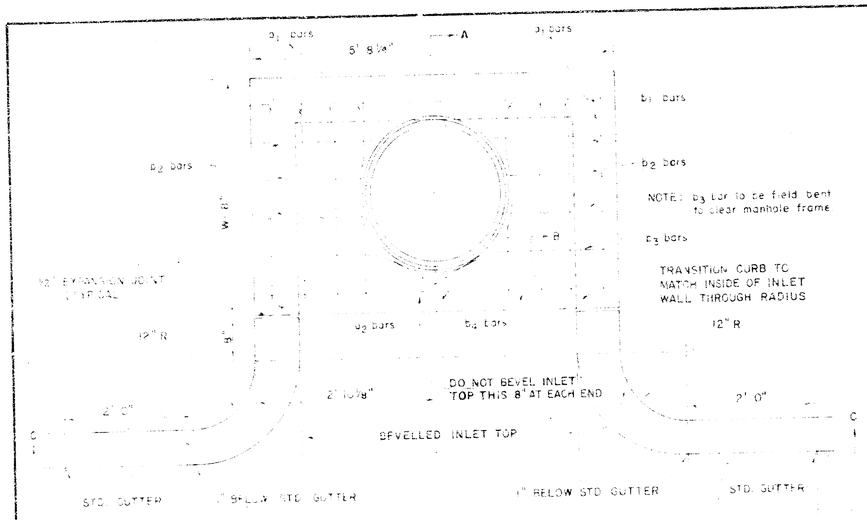


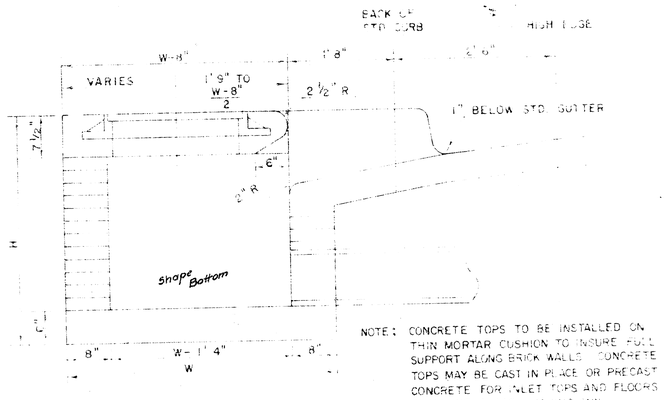




INLET STRUCTURE

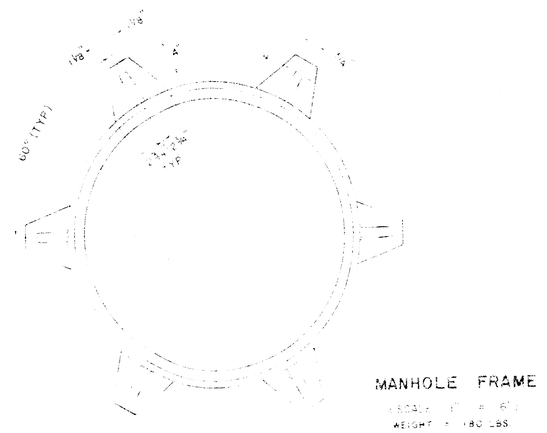
OUTLET STRUCTURE W/ FLAP-GATES



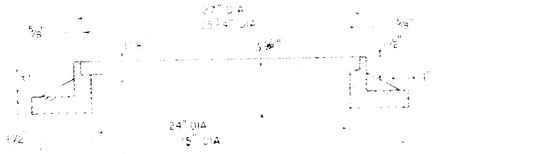


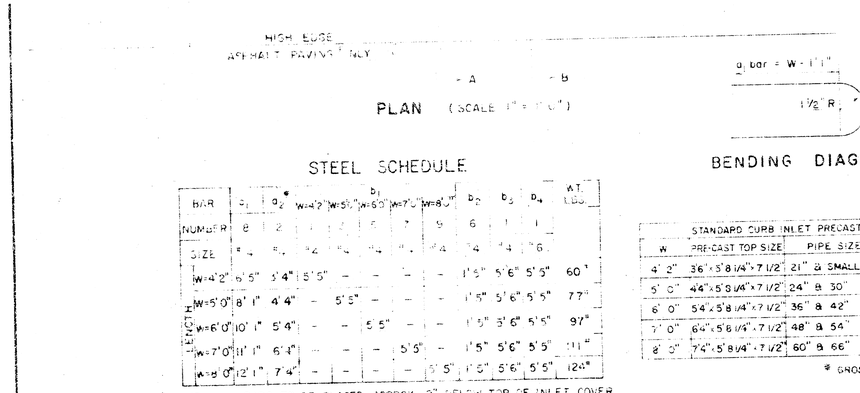
SECTION A-A
(SCALE 1" = 1'0")

NOTE: 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 6-SACK PAVING MIX



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





BENDING DIAGRAM

STEEL SCHEDULE

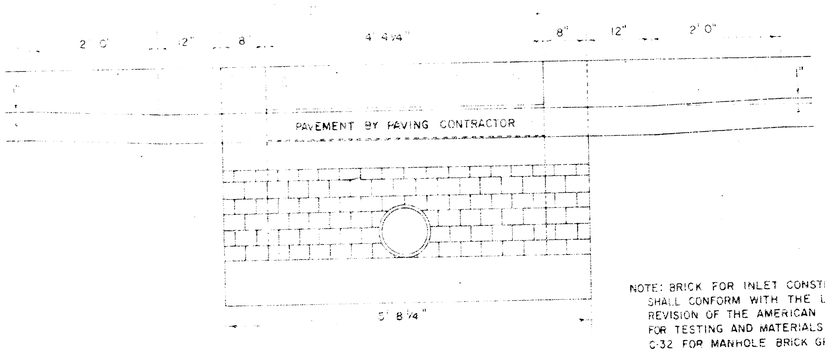
BAR	b_1	a_2*	b_1 W=4'2"	b_1 W=5'0"	b_1 W=6'0"	b_1 W=7'0"	b_1 W=8'0"	b_2	b_3	b_4	WT. LBS.
NUMBER	8	2	1	2	5	7	9	6	1	1	
SIZE	#4	#5	#4	#4	#4	#4	#4	#4	#4	#6	
LENGTH W=4'2"	6'5"	5'4"	5'5"	–	–	–	–	1'5"	5'6"	5'5"	60 #
LENGTH W=5'0"	8'1"	4'4"	–	5'5"	–	–	–	1'5"	5'6"	5'5"	77 #
LENGTH W=6'0"	10'1"	5'4"	–	–	5'5"	–	–	1'5"	5'6"	5'5"	97 #
LENGTH W=7'0"	11'1"	6'4"	–	–	–	5'5"	–	1'5"	5'6"	5'5"	111 #
LENGTH W=8'0"	12'1"	7'4"	–	–	–	–	5'5"	1'5"	5'6"	5'5"	124 #

* NOTE: a_2 BARS TO BE PLACED APPROX 2" BELOW TOP OF INLET COVER

STANDARD CURB INLET PRECAST TOPS

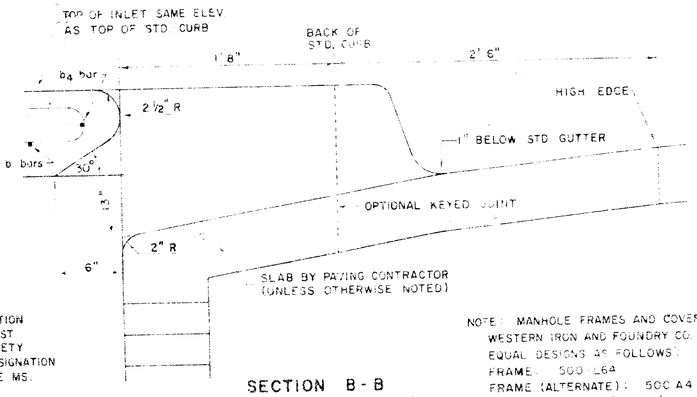
W	PRE-CAST TOP SIZE	PIPE SIZE	CU YD. CONC.
4'2"	36"x5'8 1/4"x7 1/2"	21" & SMALLER	0.46 *
5'0"	44"x5'8 1/4"x7 1/2"	24" & 30"	0.57 *
6'0"	54"x5'8 1/4"x7 1/2"	36" & 42"	0.71 *
7'0"	64"x5'8 1/4"x7 1/2"	48" & 54"	0.84 *
8'0"	74"x5'8 1/4"x7 1/2"	60" & 66"	0.97 *

* GROSS VOLUME

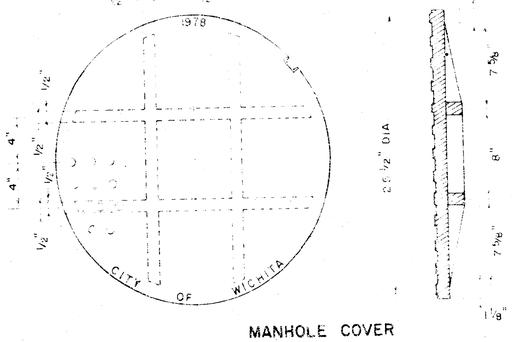


SECTION C-C
(SCALE 1" = 1'0")

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 MS.

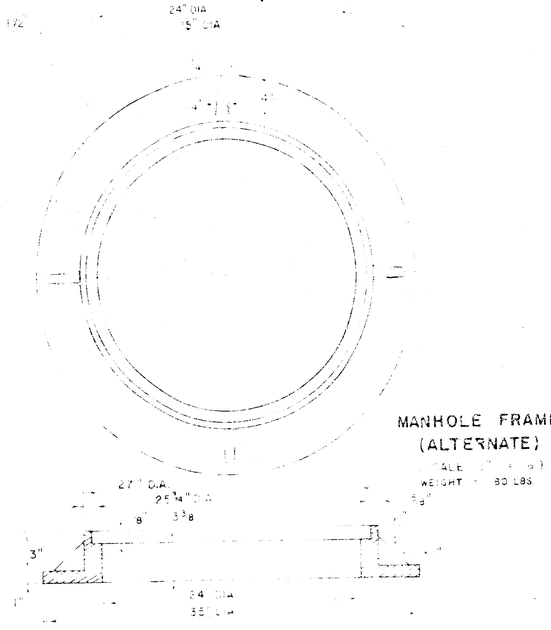


SECTION B-B
(SCALE 1" = 6")



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

NOTE: MANHOLE FRAMES AND COVER ARE WESTERN IRON AND FOUNDRY CO. INC. OR EQUAL DESIGNS AS FOLLOWS:
FRAME: 500 L64
FRAME (ALTERNATE): 500 A4
COVER: 222 S4 "NOBBY"



MANHOLE FRAME (ALTERNATE)
(SCALE 1" = 6")
WEIGHT = 80 LBS.

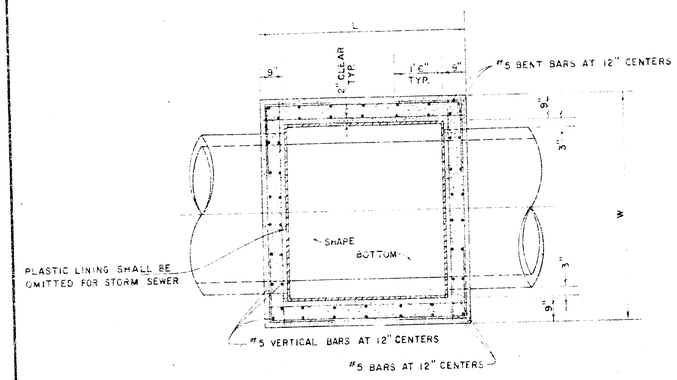
DETAIL STANDARD TYPE IA CURB INLET

CITY OF WICHITA, KANSAS

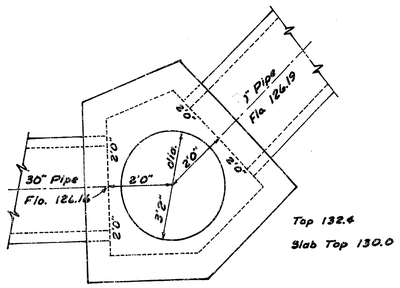
R. W. LINN – CITY ENGINEER

OCTOBER 1978

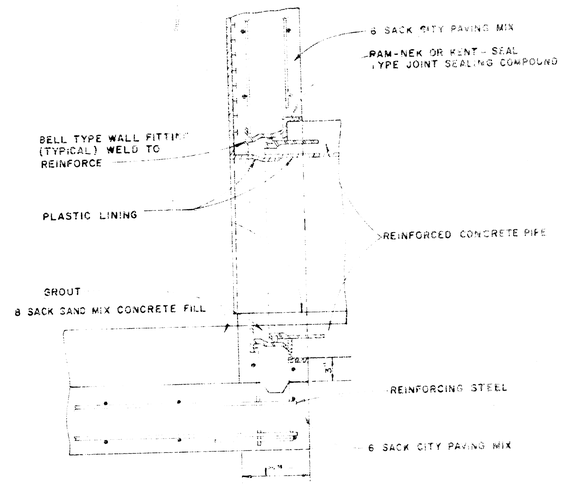
SHS # 148 Sheet 7 of 10



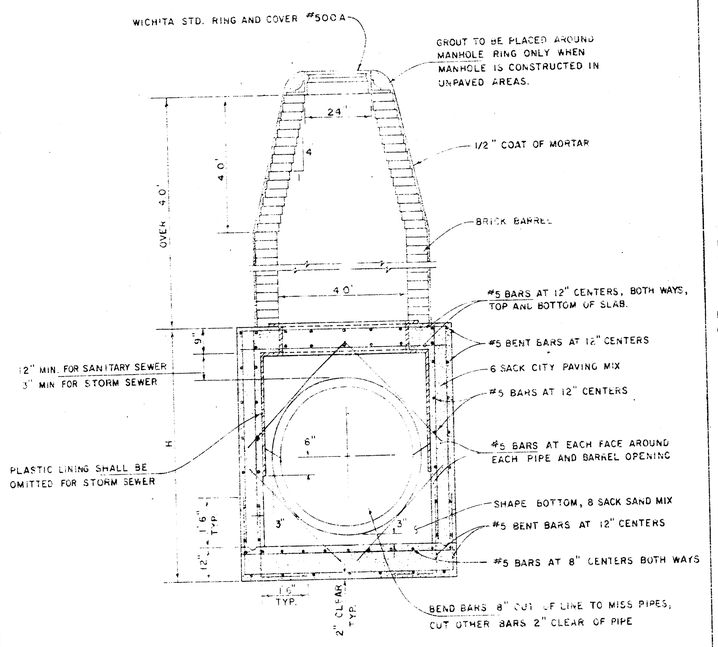
TOP VIEW



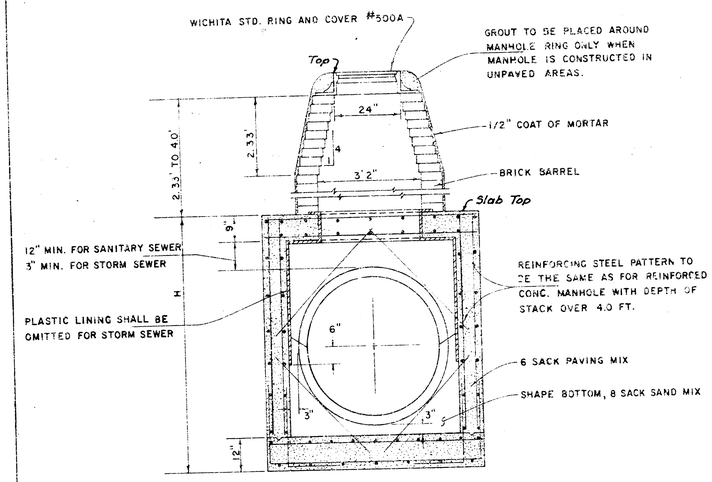
MANHOLE @ Sta. 4+94.95
Scale: 1"=2'



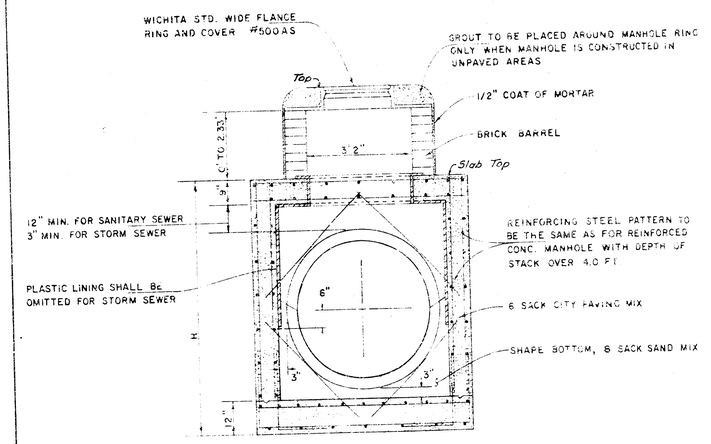
R.C.P. CONNECTION DETAIL
SANITARY SEWER ONLY



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'



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

STANDARD DETAILS
REINFORCED CONCRETE MANHOLES
CITY OF WICHITA
R. W. LINN – CITY ENGINEER
SWS #168 Sheet 9 of 10