BM 83.58 Broadway & 55th St. So.; City Bench Mark Disc, 44' east & 52' north of center line both

SCALE: 1"=20'

℄ 55th St. So.
0+00 S.L. Sec. 21, T28S, R1E

N.L. 55th St. So.
S.L. Drainage R/W

Install 30 S.Y. Type 3 Rip-Rap

0+49

100'

Constr. Headwall See Sheet 5

Sta. 0+00

12' Channel By Others

N.L. Drainage R/W
S.L. Utility Easement

Sta 0+76.7

Underground Elec. Line
8" San. Sewer & Others
N.L. Utility Easement

LOT 50

20' Drainage Easement

Constr. 18" SWS

Sta 0+95.2

Property Line & 10' Utility Easement

LOT 51

Constr. 3 Type IA Curb Inlets w= 3'10"; Tops = 83.10; Gutter ℄ El. 82.47 See Street Plans for Layout

8" Water

Sta. 2+04

EMPORIA AVE.

CAMPUS STREET

Install 4' of 15" Pipe USFL 79.5; DSFL 79.4

Install 4' of 15" Pipe USFL 79.3; DSFL 79.2

PLAN
DES'D. Rip-Rap; DED'R
DRAWN
TRACED
CHECKED
NOTE BOOK
No.

N.L. 55th St. So.
S.L. Drainage R/W

0+69 Storm Pipe

N.L. Drainage R/W

Buried Elec. Line
8" San. Sewer & Others

Ground Line

8" Water

Type 3 Curb Inlet T.C. El. 83.10

2.91 Water
2.37
3.17
Finished Pav't

DWS=809 s.f.

3:1

Channel by Others

3:1

Install Type 3 Rip-Rap

Sta 0+69
℄ El. 77.80

79.18

74.78

85
80
75
70

117.5'

117' of 18" RCP @ +2.00%
Alt. 112' of 18" CMP @ +2.00%

77.80

0 1 2

PROFILE
DES'D.
DRAWN
TRACED
CHECKED
NOTE BOOK
No.

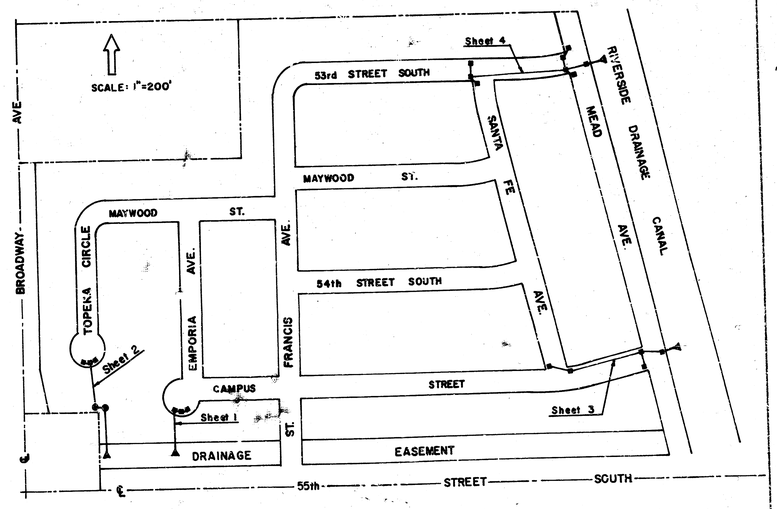
K&E PLATE 1, PLAN-PROFILE
KEUFFEL & ESSER CO
48 7024 MADE IN U.S.A.

DRAINAGE IN CONNECTION WITH MEAD from NL 55th St. So. to NL Lot 1, Block A, Riverside 2nd Addn., SANTA FE from NL Campus to SL 53rd St. So., ST. FRANCIS & 53RD ST. SO. from NL 55th St. So. to WL Mead, MAYWOOD from EL St. Francis to WL Santa Fe, 54TH ST. SO. from EL St. Francis to WL Santa Fe, CAMPUS from EL St. Francis to WL Mead, MAYWOOD & TOPEKA CIRCLE from WL St. Francis to & inc. Cul-de-sac, CAMPUS from WL St. Francis to & inc. Cul-de-sac, EMPORIA from NL Campus to SL Maywood.

CITY OF WICHITA, KANSAS
R. W. LINN, CITY ENGINEER

DATE: NOV 3 1978

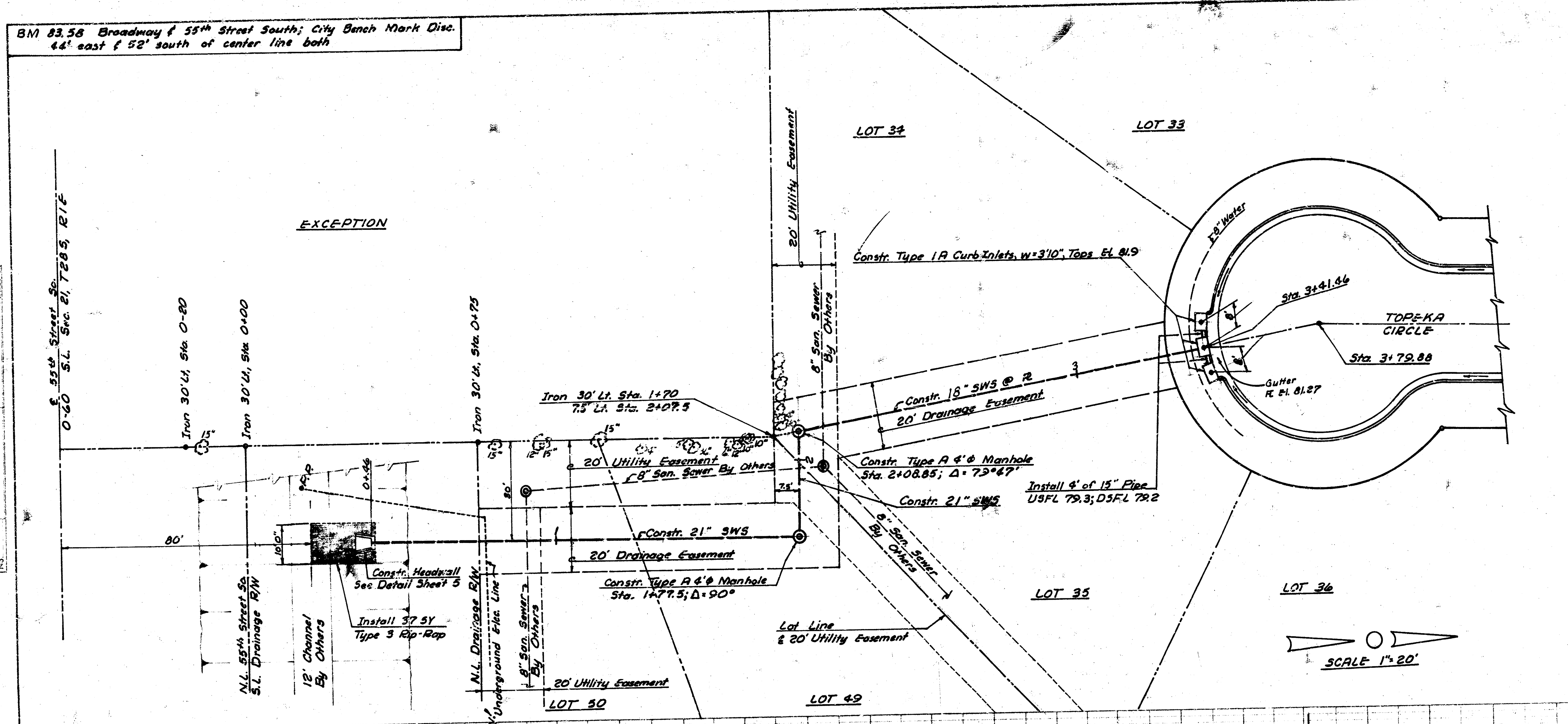
PROJECT NO. 472-76-245-80608-000-000-002



See Sheet 2 for GENERAL NOTES

1/9

DRAINAGE, Riverside 2nd Add'n Sheet 1 of 7



GENERAL NOTES

1. FIELD ENGINEER SHALL TAKE TIES TO ALL IRONS AND THIMBLES WHICH MAY BE DESTROYED. FIELD ENGINEER SHALL REPLACE ALL IRONS AND THIMBLES WHICH ARE DESTROYED.

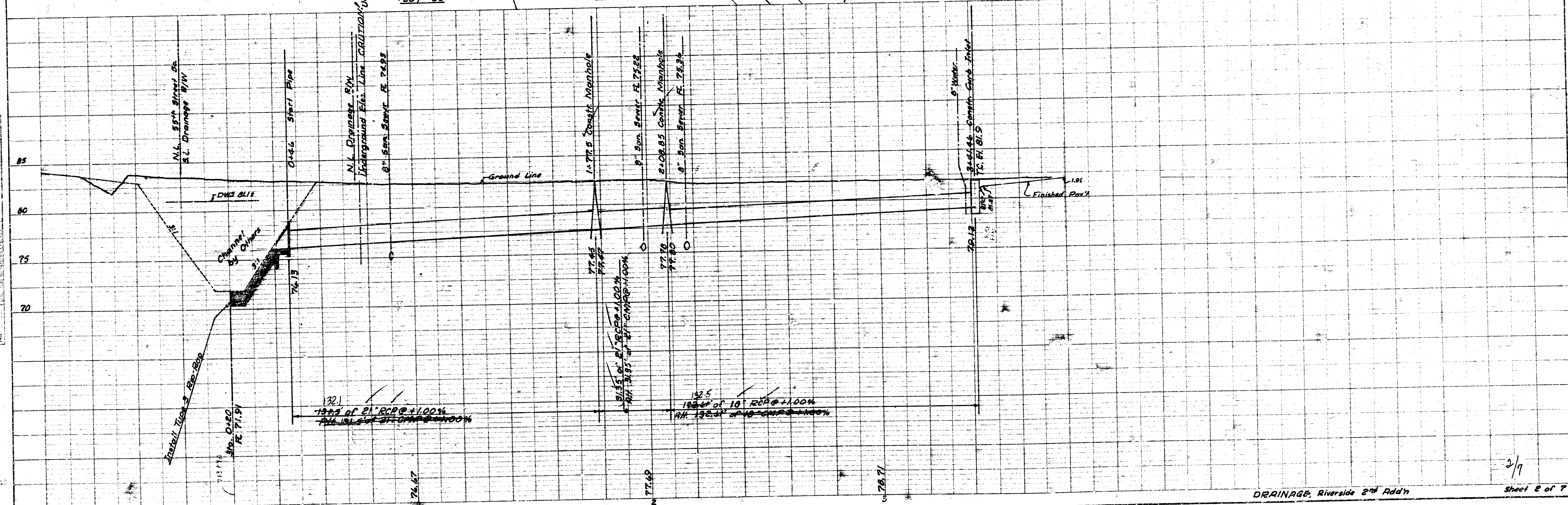
2. ALL CONCRETE UNLESS OTHERWISE NOTED SHALL BE "6-SACK CONCRETE".

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.

4. THE RIP-RAP ON THIS PROJECT SHALL BE TYPE 3. THE 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 USED SHALL HAVE A MAXIMUM SIZE OF ONE CUBIC FOOT AND A MINIMUM SIZE OF 1½ INCH. 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 INCHES IN SIZE.

5. HEADWALLS AT PIPE OUTFALL SHALL BE CONSTRUCTED TO ALIGN WITH THE SLOPE OF BANK IN ORDER THAT WALL PROTRUSION IS MINIMUM. WHERE SUCH PROTRUSION CANNOT BE AVOIDED, FILL AROUND THE WALLS AT APPROXIMATELY 5:1 SIDE SLOPES SO HEADWALL APPEARS ENTIRELY RECESSED.

PLAN
NOTE BOOK DCD-120; DCD-157



PROFILE

DRAINAGE, Riverside 2nd Add'n

Sheet 2 of 7

2/7

K+E PLATE 1, PLAN PROFILE KEUFFEL & ESSER CO 46 7024 MADE IN U.S.A.

PLAN — DESIGNED: DCD-1/20; DCD-1/87; DRAWN: 6-78; CHECKED: ; NOTE BOOK: ; No.

PROFILE — DESIGNED: ; DRAWN: ; CHECKED: ; NOTE BOOK: ; No.

SCALE: 1"=20'

Riverside Drainage Canal

Install 98 S.Y. Type 3 Rip-Rap

Sta. 1+01

24" SWS

Constr. Headwall See Sheet 5

Constr. Curb Inlet T.C. El. 82.50

1+48.5 Rt. Riverside Drainage Canal

30" San. Sewer

MEAD AVE.

8" Water

Constr. Curb Inlet, T.C. El. 82.30

41.5'

Constr. 38' of 15" Pipe USFL 78.6; DSFL 78.2

8" San. Sewer

10'

41' B/B

70' R/W

24" SWS

CAMPUS STREET

35' B/B

64' R/W

18" SWS

8" Water

Constr. Curb Inlet T.C. El. 82.30

See Street Plans for Layout

Constr. Curb Inlet T.C. El. 83.36

15" SWS

SANTA FE AVE.

8" Water

64' R/W

35' B/B

Constr. Curb Inlet T.C. El. 83.70

NOTE: All Curb Inlets this sheet are Type 1A (w=3'10") Curb Inlets

Riverside Drainage Canal

Sta. 0+00 El. Riverside Drainage Canal

DWG 80.1

Riverside Drainage Canal El. 74.20

Type 3 Rip-Rap

Constr. Headwall See Sheet 5 El. 74.60

Start Pipe 1+01

1+48.5 Rt. Riverside Drainage Canal

T-30" San. Sewer, 2.44% T.C. El. 82.50

2+80.65 Constr. Curb Inlet T.C. El. 82.30

8" San. Sewer

8" Water

Ground Line

4+44.33 Constr. Curb Inlet T.C. El. 83.36

8" Water

8" Water

5+15 Constr. Curb Inlet T.C. El. 83.70

74.48 74.55

74.30 74.80

78.65

78.85 79.85

80.00

60.0' 72.4' 2.10 71.3'

60.0' of 24" RCP @ +1.50% R/W 59.08' of 24" CMP (Fully paved) @ +1.62%

72.4' of 24" RCP @ +1.00% R/W 70.40' of 24" CMP (Fully paved) @ +1.00%

212.85' of 18" RCP @ +1.00% R/W 211.33' of 18" CMP @ +1.00%

71.3' of 15" RCP @ +1.00% R/W 70.85' of 15" CMP @ +1.00%

El. 74.99 El. 77.50 El. 78.50 El. 79.85

Sta. 0 1 2 3 4 5

88 80 75 70 85 80 75 70

K&E PLATE 1 PLAN PROFILE KEUFFEL & ESSER CO. 48 7024 MADE IN U.S.A.

DRAINAGE, Riverside 8th Add'n Sheet 3 of 7

3/7

PLAN — NOTE BOOK — No.

DOD-152; DOD-152
W&K

PROFILE — NOTE BOOK — No.

SCALE: 1" = 20'

Riverside Drainage Canal

Install 140' SY Type 3 Rip-Rap

Constr. Headwall See Sheet 5

Constr. Curb Inlet, T.C. El. 82.60

30" SWS

Sta. 1+46.5

30" San. Sewer

NEAD AVE.

70' R/W

41' B/B

Constr. Curb Inlet, T.C. El. 82.60

Install 32.4' of 15" Pipe, USFL 79.20, DSFL 78.90

Drainage Easement Line

Constr. Curb Inlet, w=4'10", T.C. El. 82.60

18" SWS

53rd STREET SOUTH

8" Water

SANTA FE AVE.

35' B/B

64' R/W

Constr. Curb Inlet, T.C. El. 83.50

Install 30.4' of 15" Pipe, USFL 80.10; DSFL 79.40

Drainage Easement Line

Constr. Curb Inlet, T.C. El. 83.50

Install 41.4' of 15" Pipe, USFL 79.80; DSFL 79.40

Install 29.8' of 18" Pipe USFL 78.40; DSFL 78.20

Constr. Curb Inlet, T.C. El. 82.60

Install 30.6' of 15" Pipe, USFL 79.10, DSFL 78.80

Constr. Curb Inlet, T.C. El. 82.60

See Street Plans for Layout

Constr. Curb Inlet, T.C. El. 83.47

NOTE! All Curb Inlets are Type 1A Curb Inlets (W = 3'10" unless otherwise noted.)

PROFILE — NOTE BOOK — No.

D+00 El. Riverside Drainage Canal

Riverside Drainage Canal El. 71.2

Start Pipe

1+46.5 W.L. Riverview Drainage Canal El. Head Ave

30" San. Sewer 1+60.00 Constr. Curb Inlet Top El. 82.60

8" Water

2+86.5 Constr. Curb Inlet w=4'10" Top El. 82.60

Ground Line

5+15 Constr. Curb Inlet Top El. 83.50

DWS 80.5-2

Fill to 75

75.24

75.09

75.89

74.09

74.39

79.15

53.4' 53' of 30" RCP @ +0.32% Fill 0.4' of 30" CMP (Invert Paved) @ +0.32%

60.0' 60.0' of 30" RCP @ +0.32% Fill 0.0' of 30" CMP (Invert Paved) @ +0.32%

258.1' 258.1' of 18" RCP @ +0.72% Fill 0.0' of 18" CMP @ +0.72%

Install Type 3 Rip-Rap See General Notes

Constr. Headwall See Detail Sheet 5, El. 74.26

74.00

77.40

78.32

79.04

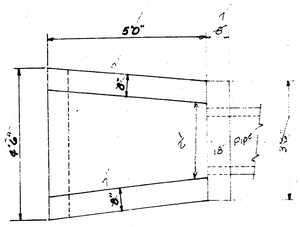
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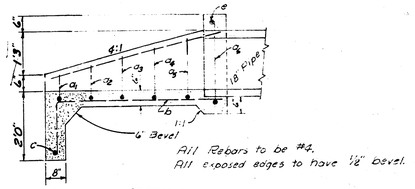
DRAINAGE, Riverside 2nd Add'n

4/7 Sheet 4 of 7

K&E PLATE 1, PLAN-PROFILE KEUFFEL & ESSER CO 48 7024 MADE IN U.S.A.

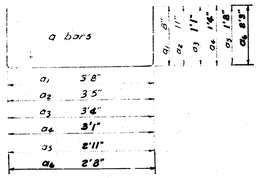


PLAN
Scale: ½"=1'0"



All Rebars to be #4.
All exposed edges to have ½" bevel.

SECTION
Scale: ½"=1'0"



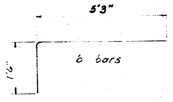
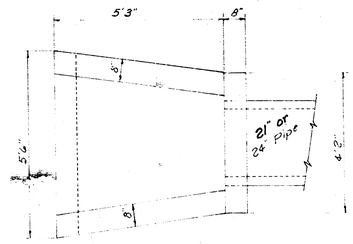
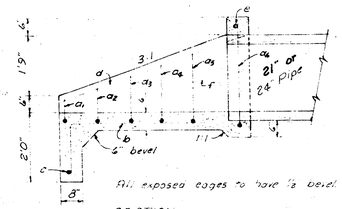


TABLE OF QUANTITIES				
BAR	NUMBER	LENGTH	SHAPE	WEIGHT
a1	1	5'0"		3.34
a2	1	5'3"		3.51
a3	1	5'6"		3.67
a4	1	5'9"		3.96
a5	1	6'3"		4.18
a6	1	7'2"		4.79
b	5	6'9"		22.56
c	1	4'0"		2.67
d	2	5'3"		7.01
e	1	3'8"		2.12
Total Rebars, lbs.				53.57
Conc. C.Y.				1.08

HEADWALL FOR 18" PIPE



PLAN
Scale: ½"=1'0"



All exposed edges to have ½ bevel.

SECTION
Scale: ½"=1'0"

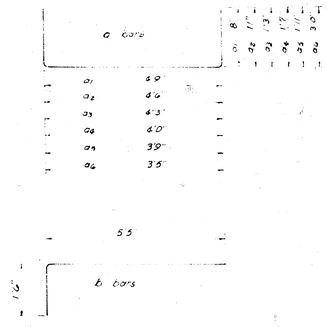
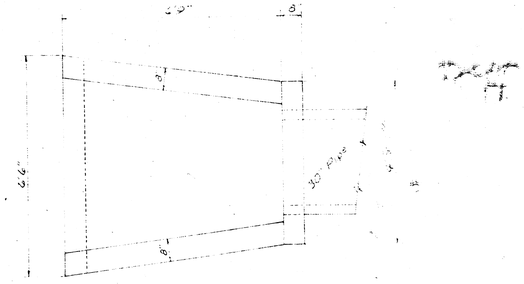


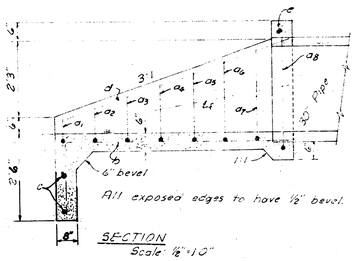
TABLE OF QUANTITIES				
BAR	NUMBER	LENGTH	SHAPE	WEIGHT
a1	1	6'9"		4.06
a2	1	6'6"		4.23
a3	1	6'9"		4.51
a4	1	7'2"		4.79
a5	1	7'7"		5.37
a6	1	5'5"		6.39
b	6	6'11"		27.78
c	1	5'0"		3.37
d	2	5'10"		7.79
e	1	3'10"		2.56
f	2	2'9"		3.47
Total Rebar, lbs.				74.03
Concrete, CY				1.40

All Rebars to be #4

HEADWALL FOR 21" OR 24" PIPE



PLAN
Scale: ½"=1'0"



All exposed edges to have ½" bevel.

SECTION
Scale: ½"=1'0"

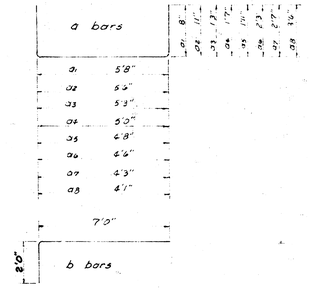


TABLE OF QUANTITIES				
BARS	NUMBER	LENGTH	SHAPE	WEIGHT
a1	1	7'0"		4.68
a2	1	7'4"		4.90
a3	1	7'9"		5.18
a4	1	8'2"		5.46
a5	1	8'4"		5.68
a6	1	9'0"		6.01
a7	1	9'5"		6.29
a8	1	11'1"		7.40
b	7	9'0"		37.13
c	2	4'0"		8.08
d	2	7'6"		10.02
e	1	4'5"		2.95
f	2	4'3"		5.68
Total Rebars, lbs.				109.40
Concrete, C.Y.				2.09

All Rebars to be #4

HEADWALL FOR 30" PIPE

HEADWALL DETAILS
DRAINAGE; Riverside 3rd Addn

Sheet 5 of 7

5
7

1/9

STANDARD TYPE IA CURB INLET
DETAIL
(SET BACK LOCATION)

CITY OF WICHITA, KANSAS
R. W. LINN - CITY ENGINEER
FEBRUARY 1957

DRAWINGS SUPERSEDE SUB 1954

THIS TYPE INLET TO BE USED WHEN PAVEMENT IS ASPHALT PAVEMENT WITH ASPHALT BASE COURSE AND/OR WHEN PAVEMENTS HAVE BOLL CURB

SEE SEWER MAINTENANCES DETAIL SHEET FOR MANHOLE COVER.

MANHOLE RING

BRICK GRADE MS
DESIGNATION CS3 FOR MANHOLE
FOR TESTING AND MATERIALS
REVISION OF THE AMERICAN SOCIETY
SHALL CONFORM WITH THE LATEST
BRICK FOR INLET CONSTRUCTION

(SCALE $1_n = 1,0_n$)
SECTION B-B

(SCALE $1_n = 1,0_n$)
SECTION C-C

(SCALE $1_n = 1,0_n$)
SECTION A-A

(SCALE $1_n = 1,0_n$)
PLAN

(SCALE: $1_n = 1/1,0_n$)
BENDING DIAGRAM

STEEL SCHEDULE

BAR	d^1	d^2	d^3	p^1 M=2.10	p^1 M=4.10	p^1 M=6.10	p^1 M=8.10	p^2	p^3	p^4	LBS. M.
NUMBER	4	4	5	1	3	2	7	6	1	1	
SIZE	#4	#4	#4	#4	#4	#4	#4	#4	#4	#6	
LENGTH M=2.10	3'-4"	2'-8"	2'-3"	2'-2"	—	—	—	1'-3"	2'-6"	4'-0"	22
LENGTH M=4.10	4'-3"	3'-6"	2'-8"	2'-7"	2'-2"	—	—	1'-3"	2'-6"	4'-0"	25
LENGTH M=6.10	5'-3"	4'-6"	3'-2"	3'-1"	2'-7"	2'-2"	—	1'-3"	2'-6"	4'-0"	28
LENGTH M=8.10	6'-3"	5'-6"	3'-7"	3'-6"	3'-1"	2'-7"	2'-2"	1'-3"	2'-6"	4'-0"	31

NOTE: d^2 BARS TO BE PLACED APPROX. 5_n BELOW TOP OF INLET COVER

STANDARD CURB INLET PRECAST TOPS			
W	PIPE-CURB TOP SIZE	PIPE SIZE	CU. YD. CONC.
3,10	$3,5_n \times 2,8\frac{1}{2}_n \times 1\frac{1}{2}_n$	$8\frac{5}{8}_n$ & SMALLER	0.10
4,10	$4,5_n \times 2,8\frac{1}{2}_n \times 1\frac{1}{2}_n$	$10\frac{3}{4}_n$ & $12\frac{3}{4}_n$	0.22
6,10	$6,5_n \times 2,8\frac{1}{2}_n \times 1\frac{1}{2}_n$	$14\frac{3}{4}_n$ & $16\frac{3}{4}_n$	0.33
8,10	$8,5_n \times 2,8\frac{1}{2}_n \times 1\frac{1}{2}_n$	$18\frac{3}{4}_n$ & $20\frac{3}{4}_n$	0.46
10,10	$10,5_n \times 2,8\frac{1}{2}_n \times 1\frac{1}{2}_n$	$22\frac{3}{4}_n$ & $24\frac{3}{4}_n$	0.58
12,10	$12,5_n \times 2,8\frac{1}{2}_n \times 1\frac{1}{2}_n$	$26\frac{3}{4}_n$ & $28\frac{3}{4}_n$	0.70

* CROSS HATCHING

NOTE: CONCRETE TOPS TO BE INSTALLED ON PRECAST CONCRETE FOR INLET TOPS MAY BE CAST IN PLACE ON SUPPORT ALONG BRICK WALLS & CONCRETE AND LEDGES SHALL BE 6-SACK THIN MORTAR CUSHION TO INSURE EVEN BEARING MIX.

NOTE: p^2 pat to be field cut to clear manhole ring.

SEWER APPURTENANCES

DETAILS OF

ADOPTED AS STANDARD DESIGN

BY

ENGINEERING DIVISION

CITY OF WICHITA, KANSAS

R. W. LINN — CITY ENGINEER

REVISED 4-12-51

GENERAL NOTES

- STANDARD MANHOLES TYPE "A" OR TYPE "B" AND STANDARD DROP MANHOLES TYPE "A" OR TYPE "B" SHALL BE BID AS.
- STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL OTHER DROP MANHOLES SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES CONTAINING TYPE AND DIAMETER INDICATED. ALL MANHOLES, WITH PIPE SIZES LARGER THAN 54", SHALL BE 5' DIAMETER.
- MANHOLE DIAMETERS MAY BE 4' UNLESS NOTED OTHERWISE.
- ALL JOINTS OF ALL MANHOLES SHALL BE PAYED TO INSURE A WATER TIGHT JOINT.
- CONCRETE USED IN MASONRY CONSTRUCTION SHALL CONTAIN 6 SACKS OF CEMENT PER CUBIC YARD.

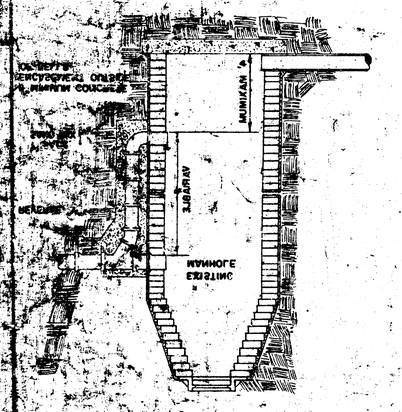
FOR EXCAVATION SHALL BE INCLUDED IN THE PRICE BID FOR THE MANHOLE.

MANHOLE EXCAVATION: COST OF CONCRETE WITHIN MANHOLE BE CHARGED WITH CONCRETE TO THE LINES OF THE PIPES INSTALLED WITHIN THE MANHOLE EXCAVATION SHALL HERE.

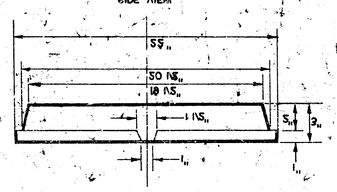
CONCRETE MASONRY EFFICIENCY USING 6 SACK SAND MIX CONCRETE FOR ALL MANHOLES SHALL BE PAYED TO INSURE A WATER TIGHT JOINT.

DETAIL OF DROP STACK

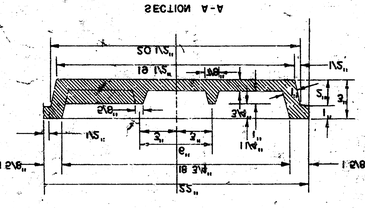
FOR EXISTING MANHOLES IN GROUND WATER



MANHOLE COVER

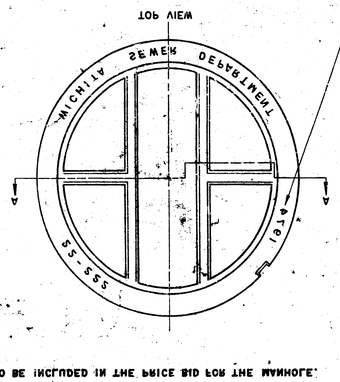


MANHOLE COVER

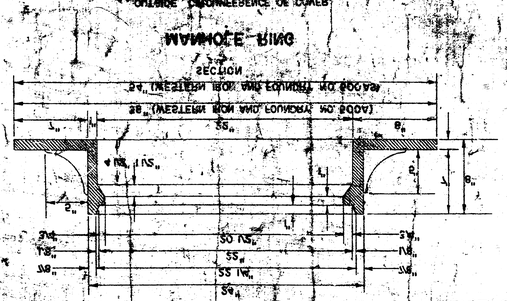


MANHOLE COVER

WEIGHT 110 LBS.

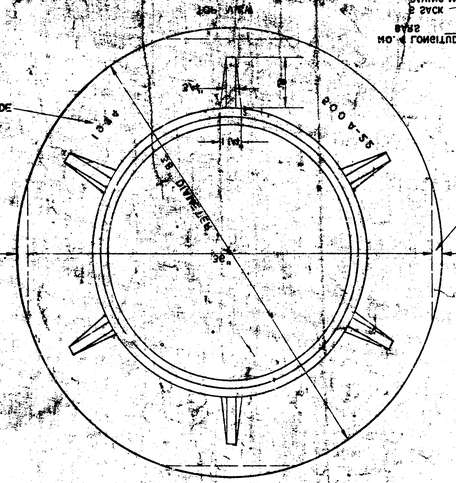


MANHOLE RING

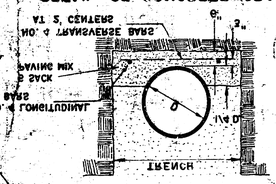


MANHOLE RING

WEIGHT 650 LBS. RING NO. 2000
WEIGHT 850 LBS. RING NO. 2000A

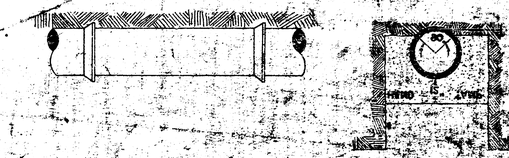


DETAIL OF CONCRETE CRADLE

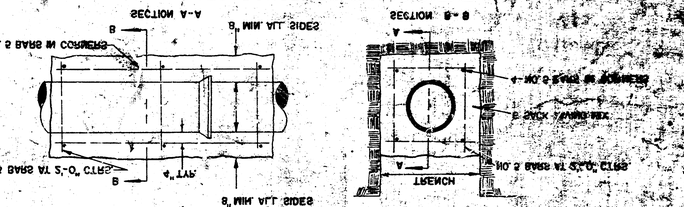


ORDINARY BEDDING METHOD

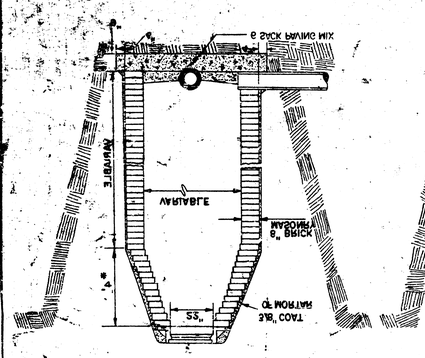
STORM SEWER PIPE



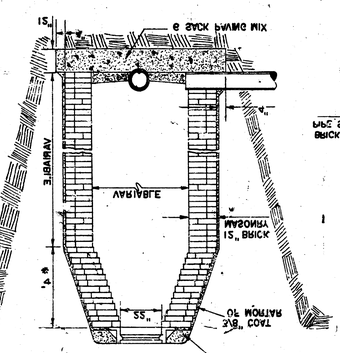
REINFORCED CONCRETE ENCASEMENT



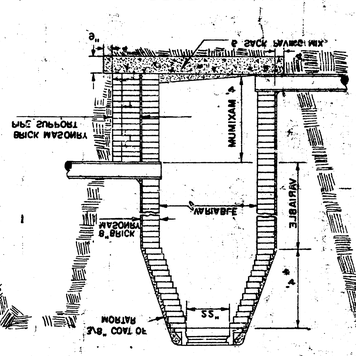
STANDARD MANHOLE TYPE "A"



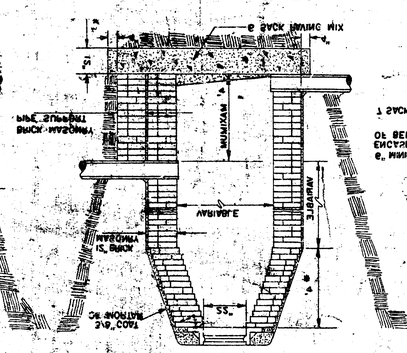
STANDARD MANHOLE TYPE "B"



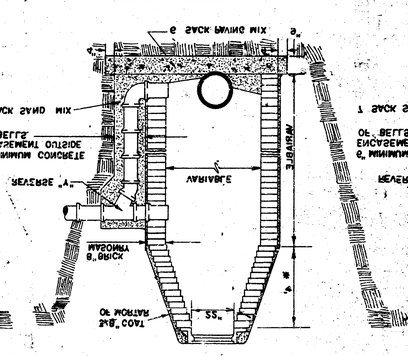
DROP MANHOLE TYPE "A"



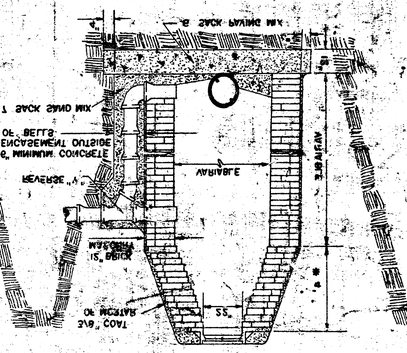
DROP MANHOLE TYPE "B"



OUTSIDE DROP MANHOLE TYPE "A"



OUTSIDE DROP MANHOLE TYPE "B"



NOTE: REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES 6" ABOVE THE BOTTOM. REINFORCING STEEL SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE COST OF REINFORCING STEEL IS TO BE INCLUDED IN THE PRICE BID FOR THE MANHOLE.

UNPAVED AREAS. (TYPICAL ALL MANHOLES)
ONLY WHEN MANHOLE IS CONSTRUCTED IN
GROUT TO BE PLACED AROUND MANHOLE RING

DRAW-6, ON 2, DIA MH